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ABSTRACT

Designed for use with students in grades nine through twelve, the model curriculum standards in this guide were developed in response to Senate Bill 813 (Chapter 498, Statutes of 1983) of the California Legislature that focused on the reestablishment of high expectations for the content of courses taught in secondary schools and for the level of effort and performance by students. Strands are included for the following curricular areas: English/language arts, foreign language, history/social science, mathematics, science, and visual and performing arts. Within each curricular division, the strands are subdivided into specific topics. All of the standards are boxed on each page and accompanied by representative activities to clarify the ways in which students might more fully understand and internalize the concepts and ideas. (HOD)

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Model Curriculum Standards

Grades Nine Through Twelve

First Edition

English/Language Arts
Foreign Language
History-Social Science
Mathematics
Science
Visual and Performing Arts

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Adopted by
CALIFORNIA STATE BOARD OF EDUCATION

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CALIFORNIA STATE DEPARTMENT OF EDUCATION
Bill Honig, Superintendent of Public Instruction
Sacramento, 1985

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Grades Nine Through Twelve

First Edition

Overview and Introduction

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DEDICATION

In memory of

Ann M. Leavenworth

Teacher, scholar, President of the State Board of Education,

and tireless advocate for the children of California

OVERVIEW AND INTRODUCTION TO THE MODEL CURRICULUM STANDARDS

"The curriculum has a core," the Carnegie Foundation for the Advancement of Teaching argued in its 1983 study of secondary education in America. The report, authored for the Foundation by Ernest L. Boyer, went on to conclude that a basic curriculum for all students "...is a study of those consequential ideas, experiences, and traditions common to all of us by virtue of our membership in the human family at a particular moment in history. These shared experiences include our use of symbols, our sense of history, our membership in groups and institutions, our relationship to nature, our need for well-being, and our growing dependence on technology. These themes ... form a core curriculum that enlarges one's vision, and they are, we believe, appropriate for every student--not just the college bound."[1]

There is a growing conviction nationally and in California that all our young people are entitled to a richer, more challenging core of academic courses. Recent reports by the National Commission on Excellence in Education, the National Academy of Sciences, and the Hispanic Policy Development Project have echoed this call. In California, the 1983 publication of the State Board of Education's Raising Expectations: Model Graduation Requirements and the enactment of new graduation requirements in the Hart-Hughes Educational Reform Act of 1983 (Senate Bill 813) have led the way toward a serious re-examination of the content of high school courses.

A strong consensus is building within the education profession in support of a core curriculum. First, if we are to stay competitive internationally, our economy requires a more sophisticated education for all students. Second, the continuance of our democratic society demands that we do a better job of teaching civic values by connecting more of our students to our history, our culture, and those ideals which hold us together as a people. Finally, we surely can be more successful in providing a broad, liberal education for more of our youth. In too many instances we have betrayed the democratic dream by operating our schools as if only the more advanced student could understand and appreciate our culture and our political and ethical ideals.

REQUIREMENT FOR MODEL CURRICULUM STANDARDS

One of the central themes of Senate Bill 813 (Chapter 498, Statutes of 1983) was the re-establishment of high expectations--for the content of the courses that would be taught in secondary schools and for the level of effort and performance by students. Consistent with this theme, the legislation reinstituted statewide high school graduation requirements which called for every student to complete at least the following courses before receiving a diploma:

- English--3 years
- History-Social Science--3 years
- Mathematics--2 years
- Science--2 years
- Foreign Language; Visual and Performing Arts--1 year of either
- Physical Education--2 years

---

[1] Ernest L. Boyer, High School: A Report on Secondary Education in America. New York: Harper and Row, 1983, p. 95.

To assist local school districts to upgrade course content, Senate Bill 813 also requires the Superintendent of Public Instruction to develop and the State Board of Education to adopt Model Curriculum Standards for the newly mandated graduation requirements. School districts are required to compare their local curriculum to the Model Standards at least once every three years. The full text of the Education Code Section requiring the Model Curriculum Standards is as follows:

> 51226. (a) The Superintendent of Public Instruction shall coordinate the development, on a cyclical basis, of model curriculum standards for the course of study required by Section 51225.3. The Superintendent shall set forth these standards in terms of a wide range of specific competencies including higher level skills in each academic subject area. The Superintendent shall review currently available textbooks in conjunction with the curriculum standards. The Superintendent shall seek the advice of classroom teachers, school administrators, parents, postsecondary educators, and representatives of business and industry in developing these curriculum standards. The Superintendent shall recommend policies to the State Board of Education for consideration and adoption by the Board. The State Board of Education shall adopt these policies no later than January 1, 1985. However, neither the Superintendent nor the Board shall adopt rules or regulations for course content or methods of instruction.
>
> (b) Not less than every three years, the governing board of each school district shall compare local curriculum course content, and course sequence with the standards adopted pursuant to subdivision (a).

DEVELOPMENT OF THE STANDARDS

In order to build the strongest possible professional consensus about what should be included in the core courses required for high school graduation, the Standards were developed with the assistance of hundreds of teachers, administrators, curriculum specialists, faculty from institutions of higher education, parents, and representatives of the business community and the general public. Members of the State Board of Education also participated extensively in the development of the Standards.

In the spring of 1984, Curriculum Advisory Committees were convened for English/language arts, history-social science, mathematics, science, foreign language, and visual and performing arts.[2] Each committee had 25 to 40 members representing the groups cited. To ensure consistency among curriculum, textbooks, and tests, the committees included individuals who also advised on adoption of textbooks and, where appropriate, development of statewide tests.

Members of the Committees devoted countless hours to their task, meeting in full committee and in working subcommittees. While not every member of every committee agrees with every standard, a strong consensus did emerge. Draft Standards were developed, critiqued, and revised many times. Some sets of

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[2] Physical education standards will be developed early in 1985.

Standards went through as many as ten drafts. The names of Committee members are listed in the Acknowledgments section of each set of Standards. Their contributions were extraordinary, and all those who use the Standards owe them a debt of gratitude.

When final drafts of the Standards were completed, they were presented to the State Board of Education for preliminary review in October, November, and December, 1984. At the same time, they were reviewed by more than 300 educators from 80 school districts in four special field review sessions. At the first two sessions, held in early November, the Standards were presented to teachers and administrators from the 80 districts. Participants were asked to take the Standards back to their districts and schools and review and critique them with their colleagues. In early December, follow-up sessions were held to receive and discuss their comments. The preliminary State Board reviews and the field review sessions produced a great many helpful suggestions that contributed to final refinement of the Standards.

A Model Curriculum Steering Committee also provided valuable assistance. The Steering Committee, comprised of the chairs of each of the Curriculum Advisory Committees, district superintendents, representatives of county superintendents, the President of the State Board of Education, a representative of the Curriculum Frameworks and Supplemental Materials Commission, and other educators, helped oversee and coordinate the work of the subject matter committees. The Steering Committee also provided valuable advice on the integration of curriculum with textbooks and tests and will continue to advise on plans for the task that lies ahead--utilization of the Standards in the nearly 400 districts that maintain high schools.

Because this is California's first effort to prepare Model Curriculum Standards, they are being published in a First Edition to allow for revisions, where appropriate, as they are further reviewed and used by school district personnel over the next nine months. A Second Edition is expected to be published in early 1986.

USE OF THE STANDARDS

As set forth in Senate Bill 813, the Model Curriculum Standards are intended to serve as a model, not a mandate. As such, they underscore the fact that a partnership between the state and local school districts is crucial to making our schools the best in the nation. The state, through the Legislature, Governor, Superintendent of Public Instruction, and the State Board of Education, is committed to setting broad priorities, offering assistance, and providing leadership to develop a shared vision of what our schools can become. In turn, school districts and schools are responsible for developing their own curriculums, their own courses, and their own partnerships with their local communities.

It is in this spirit that we hope the Model Curriculum Standards will be viewed and used. The Standards portray a vision of an outstanding core high school program for all students. On examining current courses, some districts will find that their curriculum is already consistent with the Standards. Other districts will see the need for a two-year or three-year curriculum revision effort to bring their programs up to the level called for in the Standards. Still other districts will find that a much longer term plan is needed. In each instance, what is most important is beginning the discussion of curriculum content, setting goals for improvement, and keeping the vision in sight while striving toward it.

Senate Bill 813 requires that each school district governing board compare its curriculum course content and course sequence with the Standards at least once every three years. The Standards have been designed to allow Boards as much flexibility as possible in making comparisons. First, they are not designed to be "course outlines" and do not prescribe what should be taught when. Rather, they describe the content that should be covered by the time students have completed, for example, three years of English. Second, the Standards are rich in specific examples of the content and learning activities that would be found in a model program. These examples should be useful in guiding program modifications.

Each set of Standards includes an introductory statement that describes current needs and priorities for that subject area. These statements should be helpful in making improvements in elementary and junior high school programs that will support the strengthened high school program. Also included is a guide to the organization and format, which of necessity varies somewhat from subject to subject.

In making plans to use the standards, local governing boards and superintendents should seek broad-based support for and involvement in the curriculum review process. Consider the following roles various groups might play:

- Local Governing Boards and Superintendents
  - Setting policies to guide curriculum review and revision
  - Encouraging support among the local business community, parents, and the general public for curriculum improvement
  - Carefully reviewing the results of the curriculum review process and deciding what revisions should be made
  - Ensuring that changes in district curriculum and school course content are made where necessary
  - Providing adequate resources such as staff support for curriculum review and revision and funding for teacher training
  - Ensuring that resources available from special programs (e.g., School Improvement, Chapter 1, Economic Impact Aid) are targeted to support curriculum improvement
- Curriculum Specialists, Principals, and Classroom Teachers
  - Comparing district curriculum and high school course content with the Standards
  - Examining student enrollment patterns to determine if all students (and especially minority, limited-English-proficient, and disadvantaged students) are being exposed to a strong core curriculum
  - Participating in recommendations to the superintendent and governing board on needed revisions to local curriculum and course content
  - Organizing and providing in-service training to support curriculum revisions
- County Schools Offices
  - Providing assistance and training to help districts and schools conduct curriculum reviews and plan for curriculum revision

- Professional Organizations
  - Engaging organization membership in review and discussion of the Standards
  - Providing assistance and training to help members review and improve curriculum in their districts and schools

- Institutions of Higher Education
  - Organizing faculty from academic departments and schools of education to assist districts and schools in reviewing and revising curriculum
  - Helping to train district and school staffs in specific content areas
  - Ensuring that undergraduate and teacher education programs prepare aspiring teachers to provide a strong core curriculum

- Parents, the Business Community, and the General Public
  - Becoming aware of and supporting schools in their efforts to strengthen the high school curriculum
  - Helping and encouraging children in the home to master a more rigorous curriculum

TECHNICAL ASSISTANCE

The Department of Education is planning a large-scale, long-term program of technical asistance in support of the Model Curriculum Standards. This assistance will thread through virtually every major state program.

Assistance specific to the Standards will be provided by Department staff working in collaboration with personnel from school districts, offices of county superintendents of schools, professional organizations, and institutions of higher education. Beginning in February, 1985, "awareness" sessions outlining the purpose of the Standards and describing their content will be available for school boards, district and school staffs, professional organizations, and the general public. Later in the spring, in-depth training on the Standards will be available. An extensive program of teacher training in the various curriculum areas is now being planned and will be launched as soon as resources become available to support it.

Details on these training opportunities will be mailed to school districts in the near future. If you require assistance in the interim, please contact the Office of Regional Services, Curriculum and Instruction Division, State Department of Education, 721 Capitol Mall, Sacramento, CA 95814; telephone (916) 322-4018.

CONTEXT FOR CURRICULUM IMPROVEMENT

Although curriculum improvement is only one part of California's movement toward educational excellence, it deserves to be a central theme. After all, what is taught, combined with how content and skills are taught, is at the core of the educational process. Over the years, this core has often been ignored or submerged within an increasingly balkanized array of programs, projects, centers, institutes, and mandates.

The answer, we believe, is not to do away with largely effective programs but to reconnect them with the core and help them work in direct support of a strengthened curriculum. This effort will be a major state priority in the coming years, and we urge governing boards, superintendents, other administrators, and teachers to adopt it as a high priority.

CURRICULUM AND INSTRUCTION must be placed at the center of state and district improvement efforts, and all materials relating to curriculum content must be integrated. Thus, the Model Curriculum Standards are being aligned with state frameworks, handbooks, the State Board's Model Graduation Requirements, Textbook Standards, University Expectations Statements, California Assessment Program (CAP) test specifications, and forthcoming model curriculum statements for grades K-8.

Other clusters of programs and initiatives should support this central goal. For example, state initiatives to provide ADEQUATE FUNDING, such as the longer school day and year, should be used to increase instructional time in core subjects. Similarly, ACCOUNTABILITY AND TESTING mechanisms will be designed to reflect emerging curriculum priorities. Thus, the new state and local Accountability Performance Reports will chart our progress toward curricular and instructional targets. Both elementary and secondary School Improvement Program Reviews will now emphasize curriculum. Likewise, development of new CAP and Golden State tests will proceed from, rather than ahead of, clear specification of curriculum goals.

STAFF DEVELOPMENT, for both teachers and administrators, will play a pivotal role in building lasting improvements. Thus, key programs such as Mentor Teacher, Classroom Teacher Instructional Improvement Program, School Improvement, Teacher Education and Computer Centers (TECCs), District Staff Development, University Training, and Principals' Centers must contribute to the overall effort to strengthen curriculum.

Finally, SUPPORT PROGRAMS which meet pressing students' needs for vocational education, compensatory education, bilingual education, and special education must also help young people succeed in the core curriculum. For example, in addition to its traditional role as a strong elective program designed to prepare students for employment, vocational education should also play a central role in teaching and reinforcing core content and skills.

Compensatory and bilingual programs have a tremendous opportunity to assist students to succeed in science, history, and literature, as well as in the traditional basics of reading and writing. Special education programs too can raise their students' sights by teaching content and skills derived directly from the core curriculum.

The journey that lies ahead will not be easy, but we have made a strong beginning. Many of the necessary elements for long-term improvement are already in place. Public support for schools is at its highest level in 25 years. Now all members of the educational community must pull together toward a common goal. Working together, we will surely succeed in leaving to the next generation schools that, as Ernest L. Boyer put it, "...help all students learn about their human heritage, and the interdependent world in which they live, through a core of common learnings based upon those consequential experiences common to all people."[3]

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[3] High School, p. 95.

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Grades Nine Through Twelve

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PREFACE

In 1983, the California Legislature enacted Senate Bill 813 (Chapter 498, Statutes of 1983), a far-reaching reform measure designed to improve financing, curriculum, textbooks, testing, and teacher and administrator training in the state's elementary and secondary schools. One of the central themes of SB 813 is the reestablishment of high expectations for the content that would be taught in secondary schools and for the level of effort and performance by students.

Consistent with this theme, SB 813 reinstituted statewide high school graduation requirements. Before receiving a diploma, every student must complete at least the following courses:

- English--three years
- History-Social Science--three years
- Mathematics--two years
- Science--two years
- Foreign Language; Visual and Performing Arts--one year of either
- Physical Education--two years

To assist school districts in upgrading course content, SB 813 also requires the Superintendent of Public Instruction to develop and the State Board of Education to adopt model curriculum standards for the newly mandated high school course of study. School districts are required to compare their local curriculum to the model standards at least once every three years. The full text of the Education Code Section 51226, which requires the model curriculum standards, is as follows:

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> (b) Not less than every three years, the governing board of each school district shall compare local curriculum course content, and course sequence with the standards adopted pursuant to subdivision (a).

Development of the model curriculum standards began in early 1984 when the Superintendent of Public Instruction appointed broadly representative advisory committees in six of the mandated subject areas. (Physical education standards will be developed in early 1985.) The committees worked for more than six months, frequently consulting nationally recognized experts, to produce draft standards. The draft standards were then reviewed and critiqued by teachers and administrators from more than 80 school districts throughout the state. The results of this extensive field review were used to make final refinements to the standards.

In recognition that this is California's first effort to prepare model curriculum standards, the standards are being published in a first edition to allow for revisions, where appropriate, as they are further reviewed and used by school district personnel over the next nine months. A second edition is expected to be published early in 1986.

As specified in SB 813, the standards are a model, not a mandate. They reflect the strongest possible professional consensus about the content that every student should be exposed to before graduating from high school. Some school districts will find that their programs are already consistent with the standards; others will set them as a goal to strive towards. Whatever the results of each district's curriculum review, the Superintendent of Public Instruction and the State Board of Education hope that the standards will be of help as teachers, administrators, members of school district governing boards, and others concerned with the schools work to build a stronger, richer curriculum for all our students.

ACKNOWLEDGMENTS

These model curriculum standards in English/Language Arts (grades 9-12) were prepared with the help of an advisory committee composed of educators and representatives of the community as well as business and industry. The members of the committee served in an advisory role in the preparation of this document.

Superintendent of Public Instruction Bill Honig and the members of his staff are most grateful for the efforts and contributions of all advisory committee members and also the educators who served on reaction groups which responded to earlier drafts of this document. The members of the advisory committee included the following:

*James Macon, Chairperson; Educational Consultant; and President, California Reading Association, Anaheim
Arthur N. Applebee, Professor, School of Education, Stanford University
Josie Bain, Member of the State Board of Education, Encino
Virginia Baldwin, Teacher, Saddleback Valley Unified School District, Mission Viejo
Sandy Biren, Director, Elementary Curriculum and Staff Development, San Juan Unified School District, Carmichael
Harriet Borson, California State PTA Representative, Los Angeles
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Carol Choye, Associate Superintendent of Staff Development, Curriculum and Program Evaluation, San Francisco Unified School District
*Joan Curry, Director for the Center for the Study of Reading Research and Language Development, San Diego State University
Linda Davis, Assistant Superintendent, Educational Programs and Services, Pasadena Unified School District
Helen Fried, Director of Elementary Education, ABC Unified School District, Cerritos
James Gray, Director of University of California, Berkeley/Bay Area Writing Project, School of Education, University of California, Berkeley
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Josifina Naya, Program Coordinator, El Monte Union High School District
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Shirley Patch, Teacher, San Juan Unified School District, Carmichael
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*Member of the writing subcommittee.

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Linda Vanderwold, Teacher, Davis Unified School District
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State Department of Education staff support was provided by members of the Language Arts/Fine Arts Unit: Mae Gundlach, Consultant; Leonard Hull, Consultant; Mae McCarthy, Consultant; Donavan Merck, Consultant; and George Nemetz, Consultant.

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† Principal writer for the subcommittee.

* Member of the writing subcommittee.

INTRODUCTION

The committee responsible for the preparation of these standards was guided by several publications, including the California State Board of Education's Raising Expectations: Model Graduation Requirements; and the State Department of Education's Handbook for Planning an Effective Writing Program, Handbook for Planning an Effective Reading Program, and Reading Framework for California Public Schools. Currently in preparation is yet another Department document, which will be a new framework in language arts, including reading. Its content will be aligned with these standards.

Wherever we have looked, we have seen an answer to our educational problems in returning students vigorously and intensively to the very core of English/Language Arts--to the literary works that reflect the meaning and values the human race decides are worth transmitting. The decline in SAT scores, for example, is not mere loss of technical proficiency but a decline in commonly shared knowledge. For a shared core of knowledge, reading is all-important. Reading itself depends on what we bring to the printed word; it is translated in terms of everything else we know.

Thus, an integrated approach to reading, with literature at its center, can strengthen comprehension because reading, discussion, listening, vocabulary acquisition, and composition all come from a common ground of shared classroom experience. No two teachers or districts may agree on every detail or text; but if they understand the rationale derived from current research and classroom practice, then all can use their uncommon talents for a common purpose: educating all our students through high expectations for their comprehension, composition, and oral skills. In all classes, students engage in both discussion and composition that will call for higher order thinking skills: for inferring, for analyzing, for synthesizing, as students consider what they have read for its meaning in their lives and in the larger society and as they seek to understand the past and to ponder what the future will hold.

The importance of the task requires the cooperation of the whole educational enterprise:

- The home is the first school and, arguably, the most influential. Children who arrive at our institutions are ahead if they come from homes where parents enjoy reading to them, value literacy, and show an interest in academic achievement.

- Libraries are repositories of our culture. From unique, local treasuries students can choose books that fulfill their own purposes. Librarians are teachers whose role in "turning on" children to books and ideas can be crucial.

- The leadership of district supervisors, school principals, and department chairs is essential to desired change. Following the general statewide mandate for greater rigor and for more reading and writing, administrators must enlist teachers' cooperation and with them can establish clear guidelines for text selection, student expectations, in-service training, and grading standards. Teachers working with administrators can develop a comprehensive program in literature, including writing and oral activities.

- The teacher-student relationship is at the heart of the educational experience. If change doesn't happen in the classroom, it doesn't happen. New English programs can create a greater coherence in the English/Language Arts curriculum. All teachers know that their teaching styles, their values, their knowledge, and their energy are indispensable to the educational process, yet their talents must serve common goals.

- Students must become active and responsible agents in their own education. It is true, in a sense, that nothing worth learning can be taught. Students must themselves come to grips with major texts and with the difficult tasks of thinking and composing and articulating ideas into language.

- Teachers, especially beginning teachers, should be given an opportunity to study the literary works and the teaching practices implied in this document. In some cases, districts may have to provide teachers the time simply to read the literature and to share their responses with other knowledgeable teachers. Summer professional development programs should be available for all English/Language Arts teachers.

These standards imply that students have prerequisite knowledge and skills. Implicit in these knowledge and skill areas are students' abilities to cope with the most basic reading and writing tasks demanded in our society, e.g., reading signs and labels, completing forms, and understanding verbal directions. Strong elementary and junior high school programs are the best preparation for an English/Language Arts curriculum of this intensity. Students who are most likely to succeed in this curriculum are: (1) those who have acquired a core of knowledge about ideas, people, and literature which equips them to take on more sophisticated materials; (2) those who have learned to listen and speak in a variety of situations and are thus able to engage in discussions of central literary issues; (3) those who have written about topics that have meaning to them and are thus prepared to express their convictions with greater clarity; and (4) those who have acquired basic reading and study skills.

The standards outlined in this document focus on the continued refinement of classroom programs. This new emphasis becomes clearer if the reader envisions and applies the representative activities. Although all the activities are merely suggestions, they represent the quality of thinking and practice that we envision for every classroom. No curriculum can be considered definitive. As needs and circumstances change, the districts' curricula and this document will be reassessed. We encourage response and change. These model curriculum standards are to be read, along with the supplementary document Recommended Readings in Literature: Grades Nine Through Twelve, not as mandates, but as helpful documents to guide and support a curriculum of clearer focus and greater rigor.

ORGANIZATION AND FORMAT

In organizing this document, we first categorized major concepts and ideas. We then developed curriculum standards, which are boxed, and accompanying representative activities to clarify and make more concrete ways in which students might more fully understand and internalize these overriding concepts and ideas. To facilitate the possible need to duplicate or to make transparencies of this material, we have begun each major concept on a new page.

CURRICULUM STANDARDS

MAJOR HUMAN VALUES AND ISSUES

Standard Number One

Students study the central works to develop ethical, aesthetic, and cultural values.

Representative works useful for developing ethical values:

1. To understand the value of tolerance for others, the class reads *To Kill a Mockingbird* or *The Heart Is a Lonely Hunter*. After discussing the tragedies caused by prejudice in these novels, students write of their own experiences with prejudice and tolerance. The best essays are read aloud.

2. The conflict between individuality and the need for social acceptance is addressed in *The Clan of the Cave Bear* by Jean Auel, in Thoreau's *Walden*, and in Twain's *Huckleberry Finn*. Students examine their own similar conflicts.

3. *Pride and Prejudice* and *The Scarlet Letter* illustrate the fact that personal integrity and a good social image often don't reside in the same person (i.e., Hester Prynne struggles toward integrity; the minister hides his sin).

4. The war between the higher and lower sides of human nature is a theme of *Dr. Jekyll and Mr. Hyde*, *Jude the Obscure*, *Sea Wolf*, *Heart of Darkness*, and *The Brothers Karamazov*.

5. Students stretch themselves through experiencing others' lives, other life-styles, and other times as they read Pearl Buck's *The Good Earth*, Melville's *Moby Dick*, Jane Austen's *Emma*, or Faulkner's *The Sound and the Fury*.

Representative activities for developing aesthetic values:

1. Students become aware of and discuss the style of writers such as J. D. Salinger, Lewis Carroll, and Eve Merriam.

2. Students examine the wit of Mark Twain and of the *Don Camillo* stories.

3. Students develop an appreciation of words and images in such poems as "The Rhyme of the Ancient Mariner" and the works of such writers as Gerard Manley Hopkins, John Updike, Gwendolyn Brooks, and, of course, Shakespeare.

4. Teachers read aloud from such works as *A Midsummer Night's Dream*, many of the Irish plays and ballads, and the myths of many countries. Such works stretch the students' imagination and reach deeply into the psyche.

Certain sections of the Bible--Genesis, Job, the Psalms, the Epistles of St. Paul, and the Sermon on the Mount--also speak to all human beings of every age.

Representative activities for developing cultural values:

1. During the reading of My Antonia, students study the values of the immigrants and the townspeople, answering questions about the cultural values of specific groups.

2. Students read Go Tell It on the Mountain and A Portrait of the Artist as a Young Man to see similarities and differences between the communities of Harlem and Dublin and to discover what each protagonist struggled against to be free.

3. After reading N. Scott Momaday's essay, "A Vision Beyond Time and Place," students explain in writing the author's view of cultural nearsightedness and how the Chippewas differ from the majority.

4. Students read Truman Capote's "A Christmas Memory" and discuss the importance of family and community rituals. Members of the class share orally the customs of their families or ethnic groups on special holidays.

Standard Number Two

The student confronts the major social and political issues, thus acquiring a common body of knowledge embedded in literature.

Representative texts for addressing social and political issues in literature:

1. The corrupting effects of power exemplified in Macbeth and All the King's Men merit reflection. By contrast, a self-effacing and witty approach to high office is portrayed in Abe Lincoln as Carl Sandburg describes him.

2. Students read about and discuss the effects of war in Remarque's All Quiet on the Western Front, James Jones' From Here to Eternity, the poems of Wilfred Owen, Tolstoy's War and Peace, and in John Hersey's Hiroshima.

3. The struggle between conscience and society is clarified in Civil Disobedience by Thoreau, Martin Luther King's "Letter from a Birmingham Jail," Billy Budd, A Portrait of the Artist as a Young Man, and the biographies of the American forefathers.

4. The class discusses the great historical novels, essays, plays, and poems, including Julius Caesar, The Confederate Papers, Man on a Donkey, and A Tale of Two Cities.

Standard Number Three

Students participate in an extensive reading program of high interest and worth supported by a large library system, including classroom, school, and community libraries. Both central works and "good reads" make up the individual's program.

Representative activities for extending reading:

1. Students select and read a variety of literary works for enjoyment and intrinsic value.
2. When students indicate a liking for a certain author's work, their teachers encourage them to read other works by that author.
3. Schools sponsor events to encourage personal reading, such as book fairs, reading clubs, and authors' fairs.
4. Students use both school and community libraries to select books for personal reading.
5. Students share favorite books through discussions and dramatizations and through reading aloud.
6. After consulting about the student's interests, teachers choose both contemporary and classic works made into filmstrips, television shows, and radio programs.
7. Before graduation, students will have read a large number of literary works, some selected from a district's list and some chosen independently.
8. Parents exhibit their own enjoyment of reading and discuss books, newspapers, and magazines with their children.

Standard Number Four

Districts and departments select a core of literary works, some of which are to be studied in-depth at each grade level and some of which students read on their own.

Representative activities that exemplify this standard:

1. Districts develop a list of core works to be the cornerstone of English/Language Arts study. The list should emulate the state's suggested list in its range, complexity, and balance but may include other books which also suit students' needs. A supplementary document titled Recommended Readings in Literature: Grades Nine Through Twelve has been prepared to assist local decision makers in the selection of literary works.

2. From the district's list, high school English departments select works to be taught directly at each grade level, thus building a curriculum of works read and human issues discussed. Departments choose works of various levels of difficulty, from all the genres, with a variety of perspectives derived from different disciplines. They choose important literary works likely to be meaningful to their school population.

3. Districts set rigorous but attainable standards for the number and kind of works read. With district guidance and support, teachers help students plan their own reading programs for each school year. Teachers assign readings and encourage all students to read widely from the core list and beyond. Classroom bibliographies will acquaint students with additional titles, and class visits to the school, city, and university libraries and summer reading programs for additional credit will enhance and encourage wide reading. Students will graduate having read a wide variety of books that interest them.

4. Districts with minority language students may substitute on the core list important literature in the first language of the student. Thus, Carlos Fuentes' The Good Conscience might be on the district list as a corollary of James Joyce's A Portrait of the Artist as a Young Man as a core text.

5. Care should be taken to ensure that all students graduate with a sound foundation in literature and all of the language arts, including reading, writing, speaking, and listening. Such a balance should exist in all language arts classes: comprehensive English classes or specialized courses such as forensics, journalism, advanced composition, or literature.

6. In selecting literary works for the core, extended, and recreational/motivational reading programs, districts should choose works that reflect equity in ethnicity, multiculture, and gender.

7. A sample range of selections that might be included in a literature curriculum can be found on page 7. Such a range is useful for helping teachers avoid duplication in the selections used for intensive study in the classroom. The range incorporates a variety of genres and areas of interest. The intent is not that students study all the titles listed intensively; rather, teachers should select titles from a range appropriate to their students' interests and needs.

A SAMPLE RANGE TO ILLUSTRATE WHAT DISTRICTS/DEPARTMENTS MIGHT CHOOSE FOR INTENSIVE IN-CLASS STUDY*

	Grade 9	Grade 10	Grade 11	Grade 12
NOVEL	Dickens' Christmas Carol Roll of Thunder, Hear My Cry (Taylor) The Pearl Clan of the Cave Bear (Auel) Rebecca	A Separate Peace I Know Why the Caged Bird Sings (Angelou) Selection of world myths Martian Chronicles (Bradbury)	Huckleberry Finn Farewell to Manzanar (the Houstons) Black Boy (Wright) The Bear (Faulkner) (short version)	David Copperfield The Invisible Man Ordinary People (Guest) Pride and Prejudice
	(Many other works of each genre would be chosen at each grade level.)			
DRAMA	Romeo and Juliet Trifles Diary of Anne Frank (Goodrich & Haskett) Flight into Danger (Hailey)	Macbeth Twelve Angry Men (Rose) Raisin in the Sun (Hansberry) The Glass Menagerie	A Midsummer Night's Dream Our Town The Little Foxes (Hellman)	Hamlet Death of a Salesman Antigone The Doll's House (Ibsen)
SHORT STORY	Edgar Allen Poe and Carson McCullers	Doris Lessing and Anton Chekhov	F. Scott Fitzgerald and Richard Wright	Franz Kafka, James Joyce, and Katherine Anne Porter
POETRY	Selections of haiku by Basho Selections of narrative poetry Selections of Dorothy Parker, Ogden Nash, and Gwendolyn Brooks Selections from the Odyssey	Selections of Poe Poems of Stafford, Merriam, Swenson, Hayden, and Langston Hughes Poems of Robert Frost Ballads	Selections of Emily Dickinson Poems of California poets Poems of Giovanni, Cullen, Clifton, Walker, Neruda Poems of E. A. Robinson Poems of Carlos Cortez	Selections from the Iliad Selections of modern poets: Yeats, Eliot, Piercy, Rich, Plath, Millay, Graves Beowulf Poems of Keats and Shelley
ESSAY	"A Christmas Memory" (Capote) "My Dungeon Shook" (Baldwin) "The Spreading You Know" (Thurber) "Pilgrim at Tinker Creek" (Dillard)	"Platero and I" (Jimenez) "I Have a Dream" (King) "The Marginal World" (Carson) "A Dissertation Upon Roast Pig" (Lamb) "Sports in America" (Michener)	"To Be Young, Gifted, and Black" (Hansberry) Selections from "Notes of a Native Son" (Baldwin) Collections of E. B. White, Garrison Keillor, or Calvin Trilling	"A Vision Beyond Time and Place" (Momaday) "A Room of One's Own" (Woolf) "In Search of Our Mothers' Gardens" (Walker) "A Modest Proposal" (Swift) "Lives of a Cell" (Lewis Thomas)

*In this sample, the intent is not that students should be expected to read all titles listed; rather, teachers should select titles from a list appropriate to their students' interests and needs.

Standard Number Five

To ensure thorough comprehension, students read the core works in depth.

Representative activities for ensuring comprehension:

1. Teachers present background information, essential vocabulary words, and concepts--whatever will open up works to their particular students.

2. Teachers focus the reading of a work by asking questions that allow the students to explore general impressions of the selection before they are asked about particular aspects of the work. As students respond to the questioning by the teacher, their ideas are shaped. If time is allowed for closure and the questioning and responding are open-ended, the class will share a common experience of understanding and appreciating the literary work.

3. Classroom time is spent pursuing the meaning of works, chapters, sentences, and words. The teacher questions students, asking, for example, "Exactly what is meant by Thoreau's reference about stepping to a different drummer?"

4. Students see a film and discuss contemporary events or people similar to those in the work.

5. Teachers motivate initiation into the texts by tying them to larger concerns and to interests relating to the students' lives. In preparing students to read, say, Truman Capote's "Fruitcake Weather," teachers discuss with them the universal problem of human loneliness and what one can do to enlarge one's world; both are themes of this short story.

Specific enabling techniques for ensuring higher level comprehension:

1. Before reading The Once and Future King by T. H. White or Morte d'Arthur by Sir Thomas Malory, students research and then list the values embodied in the Arthurian chivalric code. When they complete the story, they construct a report card based on these values, giving each of the knights a grade.

2. Students read F. Scott Fitzgerald's The Great Gatsby and discuss the conflict between the narrator's sense of integrity and the laissez-faire attitudes of the wealthy in the story.

3. After reading Pearl Buck's The Good Earth or Alexander Solzhenitsyn's One Day in the Life of Ivan Denisovich, students choose the character they think best overcomes adversities and write a character sketch explaining those strengths.

4. After studying the theme of Watership Down by Richard Adams, students write a paper comparing the rabbits' exile to that of another character in literature (perhaps from Homer's Iliad and Odyssey), including the reason for the exile, the difficulty the characters face, their abilities to deal with the problems, and the end as a justification of the means.

5. Dividing into three groups, students, with teacher guidance, choose to read either Walden by Henry David Thoreau, Cross Creek by Marjorie Kinnan Rawlings, or Pilgrim at Tinker Creek by Annie Dillard. After reading the selected work, each group presents an oral account of how and why the individuals in the book sought to lead a simple, naturalistic life.

Standard Number Six

Students learn to comprehend in depth and with sophistication the nuances as well as the larger meaning of a variety of works.

This key standard requires students, no matter what their reading level, actively to pursue higher level comprehension. Every student gets mentally stretched and challenged. What students bring to the text is often what they get from it; thus, for less-prepared students, much discussion, motivation, and background information should precede and accompany reading. The teacher assesses students' prior knowledge of and experience with the central issues and fills in gaps as needed.

Representative activities that exemplify this standard:

1. Advanced students discuss more complex readings, confronting issues through analysis and application.

2. Average students also discuss significant issues of central texts. They are enabled to do so through wide background information and a careful sequencing of reading and questioning.

3. Students below grade level require flexibility in approach and pacing, and perhaps they need to study a few easier central texts.

4. Students significantly below level might need first to hear a reading of the drama or story. They then tape and listen to their own reading in order to enhance their reading fluency.

5. Students sharpen their sensory abilities in order to improve comprehension through the following activities:

   - Students listen to the teacher read the parts of a literary work while they visualize the setting and try to hear the sounds.

   - As students listen to Thor Heyerdahl's description of the storm in Kon-Tiki, they create vivid visual impressions. They write a short description of an experience that they have had, using words that evoke sensory images.

6. Students engage in comparing and contrasting activities:

   - After reading and discussing the story that the author told, the students compare and contrast the experiences of a character in the story with their own experiences.

- After reading the Autobiography of Miss Jane Pittman by Ernest Gaines, the students discuss the important facts of her life. They then compare her life with that of another person whose life is featured in a contemporary magazine.

- Students compare and contrast President Kennedy's acceptance speech to that of President Reagan, analyzing both in style and content. They then discuss their findings.

7. Students summarize central issues in literary works.

   - Students listen to a recording of a great speech. They then discuss the central issues and summarize the speech in their own words.

   - After reading and discussing Huckleberry Finn, the students summarize the main events and the supporting details in their own words. Then they contrast Huckleberry Finn's view of his world with their own view. Black students might contrast the characterization of Jim with the way they would depict him.

8. Students learn to make inferences.

   - Students infer an author's meaning after reading and listening to a variety of literary forms. For example, they listen to a reading of parts of Whitman's Leaves of Grass, discuss it, and then express in their own words the author's intent.

   - Students listen to contemporary political speeches to distinguish between facts and inferences made by the speakers. They then talk in small groups to clarify their own thinking.

9. Students draw conclusions and make judgments.

   - Students read a literary work and participate in a teacher-led discussion about the main characters. They then justify or question the actions of the protagonist.

   - Through reading a variety of literary works and discussing the main events and characterizations, students discuss the fact that acts have consequences. Then, after discussing Macbeth, for example, they consider cause-and-effect relationships in their own lives.

   - After reading and discussing a number of literary works, students reflect on the knowledge they have gained about handling decisions and making judgments.

   - Students learn how to verify the facts in a selection in order to reach a conclusion about its meaning and application. For example, they check on the accuracy of Hersey's Hiroshima from news references and other accounts of the period. Students then write their own conclusions about the use of nuclear weapons.

READING IN BREADTH

Standard Number Seven

Students read and experience a variety of literary genres, including the novel, short story, poetry, drama, biography, and essay, to appreciate techniques of effective expression and to learn about structural components (plot, setting) as well as characterization and point of view.

Representative activities that exemplify this standard:

1. Students compare the plotting in a narrative poem with that of a short story.
2. Teachers help students interpret poetry as they closely examine metaphors.
3. Teachers discuss why the writer chooses a specific point of view and what would happen if another point of view had been chosen.
4. After reading A Day No Pigs Would Die by Robert Peck, students summarize the crucial change in the development of the protagonist by composing a diamante which would illustrate, through the choice of specific words, the change in the character from the beginning to the ending of the story.
5. In "The Jilting of Granny Weatherall," a short story by Katherine Anne Porter, students look for the act that foreshadows the final jilting and discuss how the jiltings are similar. They make a time line of Granny Weatherall's life.
6. After reading three poems--"Eleven" by Archibald MacLeish, "Out, Out--" by Robert Frost, and "I Followed a Path" by Patricia Parker--students write an essay comparing the poets' use of words as they illustrate the experiences of youth. Students use memorable quotations from the poems in their own writing.

Standard Number Eight

Students learn more about the perspectives of other disciplines such as science, history, economics, mathematics, and art.

The separation of the disciplines seems artificial. Each area of thought impacts on the other areas, enriching and balancing them. Schools should encourage departments to plan their syllabi together, when possible, to allow exciting cross-semination to occur. A student reading a history novel like I, Claudius or Fabiola while studying the history of Rome, for example, will find a remote period come alive. Teachers in all disciplines should encourage the reading of good books.

Representative activities that exemplify this standard:

1. After reading The Double Helix by James Watson, students will write a news article about the discovery of the DNA molecule.

2. In science class, students read aloud the play Inherit the Wind by Lawrence and Lee, and they discuss the controversy of the two views of history argued in the play.

3. After reading Farewell to Manzanar by Jeanne Wakatsuki Houston and James Houston, students conduct a mock trial of the government's policy of internment during World War II. Class members play characters from the story and government officials as witnesses.

4. To show the privileges of the elite in Victorian England and the consequences of such policies, students studying economics read Dickens' Hard Times or A Christmas Carol.

5. Students of mathematics read the novel Flatland to experience more consciously our three-dimensional world by reading about a two-dimensional one.

6. Art students read The Moon and Sixpence by W. Somerset Maugham to gain insight into the artistic process.

7. The students compare the film version with the text of such plays as Pygmalion/My Fair Lady or a Shakespearean play.

8. Students evaluate the differences between novels like The Great Gatsby or Daisy Miller and the films drawn from them.

Standard Number Nine

Students actively respond to the central works through integrated writing, speaking, and listening activities.

Representative activities that exemplify this standard:

1. After reading a novel like The Great Gatsby and viewing a film version, the students discuss and then write about the narrator's attitude toward the American dream.

2. Students ask and answer questions coherently and concisely, justifying their views with evidence from the text.

3. Students write paraphrases of important poems, read and listen to each other's writing, and then revise in the light of the response received.

4. Students participate in dialogues derived from novels or short stories.

5. Students view a film, listen to recordings, attend live theatre productions of works they have read in class, and compare and contrast the different versions.

6. In small groups, students discuss their interpretations of a passage or a poem and then defend their interpretations in writing.

7. The teacher encourages students to read widely by reading aloud to them from a variety of works.

8. Students discuss in pairs the books they are reading; then each is asked to relay to the class his or her partner's central ideas.

9. Students write advertisements for books they have read and display them in the room.

WRITING INSTRUCTION

Standard Number Ten

Districts and/or schools develop a systematic writing program.

Representative activities that exemplify this standard:

1. Frequency of Writing Assignments:

   - Students must write every day. Their response to literature can involve writing in many forms: journals, learning logs, dialogues, and interior monologues.

   - Major writing tasks often involve some aspect of evaluation of literary works. These might include character sketches, analyses of the importance of setting, a look at images, and a consideration of symbols or themes which can evolve from student discussion.

   - The school staff establishes a policy of a "sustained silent writing program" during which all adults write along with the students.

2. Writing as a Process (Detailed in Standard Number Eleven)

   Both teachers and students recognize that writing assignments involve prewriting, drafting, revising, and final editing.

   - In the prewriting stage, teachers and class work together to find ideas, possible support, and possible strategies for organization.

   - During the drafting and revision stages, students work sometimes alone, sometimes in writing-support groups, and sometimes with the teacher to examine ways to clarify their language and develop their ideas--what they can add or what they can delete.

   - In the editing stage, students work toward a final clean copy--free of errors in usage, spelling, and capitalization. Teachers read carefully and comment on the final copy.

3. Number and Types of Writing Assignments

   - Major writing assignments involve the development at some length of a number of types of assignments--of memoirs, many types of exposition, some argumentation. These assignments, many of which take their impetus from literature, take a longer period of time, perhaps a number of weeks to complete.

4. Teacher Modeling

   - Teachers use modeling in many ways. The teacher writes with his or her class to model the process of finding ideas, getting them down, and helping the class see writing as a process that involves revising and recasting. The important thing is that students see teachers write and hear the writing read aloud.

- Another kind of modeling teachers use to help language minority students, as well as many other students, is imitation. Students read models, some of them teacher written, some of them from established writers. They then analyze the model for organization and for development. They then imitate the model using many of the writer's syntactic structures, but writing in their own words. They then move on to write their own narration, description, exposition, or argumentation on the same subject as the model.

5. Real-World Writing

   - Teachers and school administrators know that the real world demands certain kinds of writing: resumes, business letters, and memos, for example. Assigning these and other nonliterary tasks such as investigative reports, written interviews, and even the creation of a magazine will add variety, motivation, and another level of proficiency to student writing.

6. Writing Across the Curriculum

   - Students in all disciplines use writing to clarify their thinking about the content. For example, in a science or social studies class, students could use a learning log to summarize the major points of their reading assignments or of a lecture or to record questions they still have about the topic.

   - Students write frequently in many curriculum areas.

   - Teachers in all subject areas elicit student writing and recognize it as a tool for learning.

   - Student achievement in one curriculum area is determined, when possible, by an evaluation of what students write in other curriculum areas.

   - Teachers in all subject matter areas are provided with appropriate staff development in teaching writing.

7. Class Size

   - District policymakers establish a realistic teacher-student ratio to enable teachers and students to meet the requirements of the writing program. This will enable the teacher to more closely monitor the progress of each student with the process of writing and to make extensive comments on final copies.

   - Students, individually or in groups, will have more opportunity to seek help when they need it and to confer with the teacher as they work to meet the requirements of the program.

8. Evaluation

- Students understand the purposes of the evaluation criteria and apply them to their own pieces of writing.
- After students have received responses to early drafts of their writing and have revised and edited their work, they evaluate each other's papers in small groups.
- Teachers evaluate final drafts of student writing.
- Students and teachers periodically review accumulations of student writing filed over lengths of time.
- Students participate in developing the scoring guide for a particular writing assignment.
- Teachers make common assignments in writing and then exchange and evaluate class sets of papers in order that students might experience a composite of evaluative reactions to their writing. In the process, teachers also can extend their own knowledge of evaluating student writing.
- With the aid of an overhead projector, students participate in a classwide evaluation of another class' writing.
- For schoolwide and districtwide evaluation of student writing, samples of student writing are elicited and scored.
- Teachers and administrators learn about the advantages and the discrete purposes of analytical, holistic, and primary trait scoring of samples of student writing.

9. Resources, Including Computers and Word Processors

- Students use word processors while composing to facilitate sentence revision, while reorganizing their thoughts, and during the editing stage of writing. They use computers and appropriate software as a means for monitoring their use of the conventions of writing as they compose.
- Students use style books and textbooks to find clear models for assignments and to find rules for usage and grammar.
- Each student has a desk dictionary to check spelling and meaning of words.
- The teacher uses the overhead projector to project student compositions and permit the class to examine and analyze work in progress.
- Teachers use chalkboards and bulletin boards for teacher direction and student work.

10. Language Minority Students

No matter what their dominant language, all students, including those whose dominant language is not English, are more likely to learn to write well if they are familiar with and engage in the writing process. Essentially, the process of composing is the same in all languages. Therefore, the teaching of writing to language minority students should not be delayed until they are fluent in English. Although students should be enabled to write in English as soon as possible, in the interim, they should be given opportunities to write in their dominant language. Accordingly:

- Students who have not yet become proficient in basic English are provided with learning experiences involving all of the stages or phases in the writing process, in their dominant language.
- Students experience literature printed in their dominant language as a prewriting activity.
- Students experience postwriting activities, such as the posting, the circulating, or the publishing of their writing.

11. Parent Involvement

- The word "draft" is written on all student papers which are not yet ready to be evaluated by the teacher and which are sent home for parental response.
- Parents are informed in writing of the importance of their potential role in helping students gain greater facility with writing.
- Parents support the writing program by reading or listening to their child's composition at all stages in the writing process.

12. Districts/Schools Reward Good Writing

- Schools reward notable writing achievements by placing student compositions on school bulletin boards, by giving awards, and by giving high visibility to successful writers.

Standard Number Eleven

All students will learn that writing is a process that includes stages called prewriting, drafting, revising, and editing. These writing stages include higher level thinking processes such as convergent and divergent thinking, analysis and synthesis, and inferential and evaluative skills.

Stage 1 - Prewriting

1. Students generate ideas as they engage in prewriting activities.

Representative activities that exemplify this standard:

a. Students listen to a recording of Guy de Maupassant's short story "The Necklace" preparatory to writing a paper on the subject of irony.

b. Students read and discuss "The Gift of the Magi" by O. Henry before writing about the theme of the story.

c. Students read Shirley Jackson's short story "The Lottery," improvise and act out a scene from it, and then write a paper in which the theme of the story is compared with a social problem in modern life.

d. Students engage in a clustering or brainstorming session on the subject of irony.

Stage 2 - Drafting, Writing

1. Students develop fluency in writing as they write frequently on a variety of topics.

Representative activities that exemplify this standard:

a. Daily, students react to a short significant quotation through brief journal entries.

b. Frequently, students make an entry in learning logs and attempt to explain concepts they have just learned.

c. Frequently, students respond in writing to significant events in the school setting.

d. Students write a first draft of a descriptive paper on an assigned topic such as their favorite food, a draft of which is then read and evaluated by classmates. The use of a word processor, whenever possible, could facilitate this.

2. Students develop a sense of audience for their writing as they compose papers for a variety of groups or individuals.

Representative activities that exemplify this standard:

a. After reading The Ox Bow Incident by Walter Van Tilberg Clark, students assume the role of observers and write news articles about the incident and then letters of complaint to a legislator about the lack of standards of justice in a society.

b. After reading John Donne's poem "Death, Be Not Proud" and A. E. Housman's poem "To an Athlete Dying Young," students write a letter of condolence to a relative of a sports figure who died young and also an article for the sports page of a newspaper.

c. After reading The Diary of a Young Girl by Anne Frank, The Grapes of Wrath by John Steinbeck, and The Invisible Man by Ralph Ellison, students write an essay to be read by peers and the teacher on the destructiveness of racial and ethnic discrimination and also a persuasive letter to a legislator on the same subject.

d. After reading Johnny Tremain by Esther Forbes, students assume the role of Johnny and write a letter regarding an incident in the story and also a description of the same incident to be read by peers and the teacher.

3. Students identify a specific purpose for each piece of writing.

   Representative activities that exemplify this standard:

   a. After reading For Whom the Bell Tolls by Ernest Hemingway, students write a newspaper report covering the point in the story when the bridge was blown up.

   b. After reading Mark Twain's novel The Adventures of Huckleberry Finn, students write a letter in defense of the work to an imagined school board member who wishes to delete the novel from the school's curriculum because it includes the word "nigger."

   c. After reading the nonsense poem "Jabberwocky" by Lewis Carroll, students write a similar nonsense poem on a subject of their choosing.

   d. After reading Silent Spring by Rachel Carson, students write a letter to a member of Congress, asking for his or her support of legislation dealing with the improvement of the environment.

Stage 3 - Revising

1. By receiving responses from others regarding drafts of their writing, students learn to clarify and improve their writing.

   Representative activities that exemplify this standard:

   a. After students have written a draft of a brief description filled with concrete and sensory details, their papers are anonymously read aloud and projected on a screen and the entire class participates in responding to each paper.

   b. After they have completed a draft of a writing assignment, students are assigned to small response groups of two to five students and read and respond to each other's work. Changes to the written material can be easily accommodated using word processing techniques whenever possible.

   c. Teachers establish a schedule of individual student consultations during which they respond to the student's writing.

   d. Parents are encouraged to indicate that they have responded to a draft of their son's or daughter's writing by signing the paper.

2. Students revise their work as they "re-see" and "re-think" their pieces of writing.

   Representative activities that exemplify this standard:

   a. Students study early and late drafts of work of experienced or professional writers to become aware of the process of revision and the need for it in the work of all writers.

   b. Students in pairs exchange their papers and indicate to each other where clarification or more information is needed.

c. Individually, students read their papers aloud to try to discover possible misstatements, inconsistencies, or lack of clarity.

d. With the help of an overhead projector, the teacher helps a class analyze passages of student writing, raising questions as to clarity, logic, emphasis, and meaning.

Stage 4 - Editing

1. Students edit and proofread their writing in the light of the conventions of writing, accuracy of text, and proper manuscript form and in terms of appropriate diction and syntax.

Representative activities that exemplify this standard:

a. Student needs regarding the conventions of writing are diagnosed through the analytical scoring of their writing.

b. Instructors provide direct teaching for groups of students who have similar skill deficiencies as revealed in the students' own work.

c. Students make use of published stylebooks on the conventions of writing as they write, particularly during the editing stage.

d. Students work in small groups to correct each other's writing with the help of checklists and stylebooks.

Stage 5 - Post-Writing

1. Students realize the importance of writing through post-writing activities.

Representative activities that exemplify this standard:

a. Final drafts of excellent student writing are published in class magazines, school magazines, classroom collections, and community newspapers.

b. Final drafts of student writing are posted on bulletin boards.

c. Student writing is accumulated in folders for each student, and the folders are available for inspection on such an occasion as open house.

d. Superior student writing is recognized through awards and assembly programs.

e. Student writing is exchanged between schools.

Standard Number Twelve

All students will learn to write cogent, clear, and concise prose connected to the literary works they are studying.

Representative activities that exemplify this standard:

1. To argue cogently, one must believe firmly. Students discuss and then write about their greatest concern. Concerns evident in a speech, drama, or fiction they relate to could also be used.

   - Key arguments from Rachel Carson's Silent Spring are outlined and then fleshed out.

   - Students read closely The Lord of the Flies, view the film, if possible, and then analyze, with evidence from the text, the attitude toward human nature suggested in the work.

   - Science-fiction classics, like Walter Miller's A Canticle for Leibowitz, raise questions about future predictions and fears. Students write about how possible Miller's scenario is or suggest their own.

   - Students turn Mark Antony's famous "Friends, Romans, Countrymen" speech into a prose argument, using modern language. They discuss the persuasive power of that speech.

2. Students will study and emulate models of cogent prose.

   - After reading Martin Luther King's "I Have a Dream," students write of their own personal dreams or visions in life following the King model.

   - Students read closely and discuss a key paragraph of Thoreau's Civil Disobedience and then argue contrarily, using their own experience and reflection, but trying to structure their thinking as carefully as Thoreau did.

   - Gains in clarity and correctness come from reading, from daily writing, from peer response, from clear analysis of a piece of student writing, from teacher support, and from parental approval.

   - Language-minority and lesser prepared students can use models, some of them teacher written, some of them from established writers. Students can analyze the models and can then imitate them using many of the writer's syntactic structures, but furnishing their own vocabulary. They can then move on to write their own narration, description, or exposition on the same subject used in the model.

3. Students write an "i-search" paper in which they use books and other sources about a topic of interest to them in order to substantiate their findings.

Standard Number Thirteen

Students write to develop their own voice and style.

1. A student learns to appreciate tone and personal voice in writing

   Representative activities that exemplify this standard:

   a. The students mock heavily bureaucratic and jargon-laden prose. They simplify it.

   b. The student freely uses "I" in writing and finds passages of "objective" writing that do the same.

   c. The student examines passages written ironically and rewrites them, changing the tone.

   d. The student compares two political speeches or editorial letters as to tone and voice.

2. Students learn to appreciate and use the figures of speech.

   Representative activities that exemplify this standard:

   a. Students discuss what the drums symbolize in Whitman's "Beat! Beat! Drums!"

   b. Students discuss and then write an explanation of the central paradox in Emily Dickinson's "Much Madness Is Divinest Sense."

   c. After reading aloud or listening to a recording of A Midsummer Night's Dream, students paraphrase a scene of their choice to see more clearly Shakespeare's use of figurative language.

   d. Students study the many uses of metaphor in all genres and disciplines.

3. Students practice various styles on the word, sentence, and paragraph levels, thus developing their own unique way of expressing themselves.

   Representative activities that exemplify this standard:

   a. Students develop a sense of stylistic word choice by:

      - Finding synonyms for key words in poems they choose and seeing if classmates can tell the student's words from the poet's

      - Playing a trivia game or finding words for odd things--like the bit of plastic at the end of a shoelace (an aglet)

   b. Students practice a range of styles, first on the sentence level using sentences from such widely diverse writers as Ellen Goodman, Mike Royko, Ernest Hemingway, William Faulkner, and Virginia Woolf. After imitating or "creatively revising" the author's sentences with content of their own, they discuss what they learned about style (word choice and sentence structure) from these authors-teachers.

c. Students parody short, well-known pieces.

Standard Number Fourteen

Through direct teaching, students study the conventions, such as grammar, punctuation, and spelling, when these conventions have not been acquired through reading.

Writers are expected to conform to the conventions of writing, such as correct usage, punctuation, capitalization, and spelling. While extensive reading provides writers with most of their competence in these areas, some direct teaching may be necessary so that students can use these conventions at the level of correctness expected by a literate society.

Representative activities that exemplify this standard:

1. The teacher directly instructs high school students on rules of usage regarding subject-verb agreement as recurrent problems are noted in students' writing.

2. Students learn the importance of knowing the appropriate meanings of words as well as their correct spelling.

3. Teachers collect several sets of students' compositions and diagnose major grammatical and mechanical problems they are having. After direct instruction, students practice using these rules in the editing phase of the composing process.

4. Subject matter teachers agree that all students learn the conventions of language before graduation.

5. The structure of English is presented as subject matter and is compared to the grammatical structure of other languages. Students study the history of the English language and its dialects.

EFFECTIVE TRAINING IN SPEAKING AND LISTENING

Access to power, career satisfaction, human friendship, and even domestic harmony depend on relationships. Relationships often depend on communicative skills. Schools thus cannot consider skill acquisition in speaking and listening automatic or superficial. Further, the foundation for reading, writing, and thinking lies in the oral world. Language carries both the content and the processes of learning; for example, teachers and other students model fair or faulty thinking processes daily in their conversations.

Standard Number Fifteen

> Students regularly take part in discussions, panels, and debates on worthwhile topics.

Representative activities that exemplify this standard:

1. The central literary works and speeches provide content and models for discussions and debates of issues.

   - Nobel Prize winner Saul Bellow raises fascinating contemporary issues in his novels. Teachers draw from these for discussion and debate topics.

   - The suggested list of speeches can be taught partly through prepared oral presentations by students. The rest of the class listens for a purpose: to summarize, to evaluate, to question, or to apply to current situations.

   - Students conceive, develop, organize, and express ideas effectively in order to present their views on student rights in a panel discussion.

   - Students present a mock TV newscast or sportscast as they demonstrate their ability to adapt words and strategies to the situation.

   - The MacNeil/Lehrer reports provide good models and topics for student panels.

2. Students prepare and deliver persuasive speeches by observing rhetorical strategies: planning an effective, attention-getting introduction; stating their purposes clearly and using logical arguments supported with evidence to achieve these purposes; applying knowledge of common needs and motives in their persuasive appeals; including material that enhances their connections with their audience; incorporating audience beliefs and values with which they agree; concluding with an effective appeal for support.

3. Before arguing against other viewpoints, students must so restate them that the opponent agrees the restatements are fair.

Standard Number Sixteen

Students strive for a high quality of oral presentations through an awareness of standards, through class assessment, and through motivation inspired by good models.

The quality of a person's own speech depends largely on the quality of the dialogue models he or she previously absorbed.

Representative activities to improve the quality of oral tasks:

1. Students listen critically and constructively to an exchange of ideas.

2. Students identify and summarize main and subordinate ideas developed through lectures, discussions, and oral readings.

3. Students determine a speaker's point of view and rationale for arguments presented and explain the use of persuasive devices.

4. Students use self-assessment charts and responses from peers and the teacher to evaluate both the content and the technical aspects of their own speaking: facial expression, eye contact, movement, articulation, rate, and language choice. They try to assess their own presentation of self from peer feedback.

5. As they listen to a skilled guest speaker or to a talented student reading a speech like John F. Kennedy's inaugural address, students list the ideas in one column of a sheet of paper and the effective delivery and stylistic techniques in another column.

6. The oral-aural world can be dynamic and fun. Students enjoy playing roles and creating skits based on current works studied. Shy students relax and get speaking practice through choral readings and readers' theatre, and through presenting memorized short pieces.

7. Students learn the communal nature of intellectual growth--many sources and main viewpoints enrich their own thinking.

   - o After responding to a question in writing, students participate in a class discussion of the issue. They then rewrite their original response and note how and why it has changed.

   - o Students are challenged to surpass expectation and to surprise and delight their audiences in their talks.

   - o Students learn to prepare more material than they need for an extemporaneous speech in order to adjust to audience interest and needs.

Standard Number Seventeen

Students are supported and reinforced by the adults in their environment who model and guide effective speaking and listening skills and who exemplify proper respect for the diversity of language.

Representative activities that exemplify this standard:

1. With teacher guidance, students construct criteria to use as they listen to debates and panel discussions by public figures. Students analyze and evaluate the public figures' use of effective listening and speaking skills.

2. Students listen to recordings from a variety of cultures and demonstrate appreciation for the narrator's style, rhythm, mood, and tone while noting the impact of the experience on themselves and the group.

3. Teachers help students develop effective small group processes. Students learn to speak to a purpose, truly listen, elicit honest response, and generously give each other constructive suggestions.

4. Students demonstrate respect for the language styles of others as well as their own as they:

   - Interview peers from various cultural backgrounds.
   - Compile an oral history of their own family and present it to the class.
   - Recite a poem or a speech from their own ethnic or cultural background.

5. As students discuss a public event, simulate a job interview, or listen to a comedy recording, they recognize the impact of oral language as a source of information, a vehicle for attainment of career goals, and a medium of entertainment.

Standard Number Eighteen

Students engage in many activities that enhance and improve their oral/aural language abilities.

Representative activities that exemplify this standard:

1. As they learn new terms, students discuss kinds of definitions such as traditional ("loneliness is a state of being without company"), metaphorical ("loneliness is an empty doorway"), and operational (measurable criteria applied to abstract terms such as "loneliness means one has fewer social relationships than one requires").

2. Students move from information to inference to generalization and are able to test the reliability of each.

3. Students use higher level thinking skills when they engage in debates, panels, and discussions by:

   - Analyzing a controversial topic
   - Discovering relevant issues
   - Evaluating issues in order to make the best possible case for a proposition
   - Developing logical arguments to support a specific position
   - Evaluating arguments used by others
   - Presenting arguments clearly
   - Refuting opposing arguments effectively

Standard Number Nineteen

Listening skills require direct teaching.

Listening activities normally precede and sometimes follow writing activities. Listening experiences develop the necessary sense of audience and interplay necessary to good communication.

Critical listening, like critical reading and writing, calls for:

- Recognizing main ideas
- Following the structure of the talk
- Evaluating prejudice and appeal
- Summarizing
- Applying to one's own life

Representative activities that exemplify this standard:

1. Students listen twice to a short speech, once to sum up the message, a second time to analyze its appeal: what they admired (ethical appeal); what moved them (emotional appeal); what convinced them (logical appeal).

2. After studying persuasive techniques, students bring an advertisement to class and analyze its strengths and weaknesses. After listening carefully to all techniques, the class orally sums up the whole panorama presented.

3. Some students stage a mock trial or mock election like the one in To Kill a Mockingbird, or that in Twelve Angry Men, or a contemporary case. The rest of the class plays the jury or the electorate.

4. Outstanding speakers make presentations to the class or the student body.

   - Students then discuss both nonverbal techniques (posture, gestures, facial expressions, eye contact) and verbal techniques (intonation, pacing).

- The students are asked to outline mentally the key points and later give their summaries of the talk.

- They try to emulate the qualities they note in good listeners.

Standard Number Twenty

Students apply higher level thinking such as analysis, synthesis, and evaluation as they detect propaganda techniques.

Students must be able to apply their critical thinking skills as they listen to effective speakers on the mass media.

Representative activities that exemplify this standard:

1. Students initiate propaganda searches, collect their examples from print and nonprint sources, and then discuss findings with peers.

2. Students plan a political campaign for a fictitious candidate using a variety of propaganda devices.

3. Students write a thirty-minute children's television show to present one propaganda device in action so that viewers will learn to watch for it.

4. Students hear a slanted television or radio speech and point out its biases, its inadequate evidence, its confusion of facts and opinion, its errors in logic. In groups, they work out an outline of a more objective presentation on the same topic.

DIRECT TEACHING OF VOCABULARY

Standard Number Twenty-One

Students study vocabulary words in context--drawn from literature or other disciplines studied.

Representative activities that exemplify this standard:

1. From an assigned literary work, students select words that have meanings they find memorable and useful. They keep a log of these words and look for occasions to use them in day-to-day conversations or in writing.
2. Students compile a list of words describing human issues and write short descriptions of each for their own personal use and understanding.
3. After reading a literary work from a foreign country (e.g., Russia or Spain), students compile descriptive words and phrases and then list comparable words and phrases from their own nation. These words will be used in their writing to describe events or characters from the selected literary work.
4. After reading materials from several disciplines, the students will be able to categorize words from a list according to their disciplines.
5. Students will generate interesting words from a reading selection, organize them through mapping, and then write a short summary of the main points of the reading selection.
6. Students receive direct instruction on how to use the surrounding context as a clue to identify the meaning of unfamiliar words. They are taught to continually monitor their informed guesses by checking them syntactically and semantically, using their own knowledge of language and experiential background. As necessary, students may verify the meaning by looking up the word in a dictionary.
7. Teachers model an ever more sophisticated use of words. Students are praised when they use words appropriately.

Standard Number Twenty-Two

Students study etymology, the roots and histories of words, as a means of acquiring larger and more precise vocabularies.

Representative activities that exemplify this standard:

1. Thousands of important English words derive from relatively few roots. Thus, teachers should directly teach some key Latin and Greek roots such as dic--dictate, predict; mit and miss-admit, missile; epi--epilogue, episode; graph--graphic, biography.

2. The teacher selects unfamiliar words that are important to the understanding of central ideas introduced in a literary work and will lend themselves to analysis. The words are presented in context as the teacher guides students to break the words apart and apply their knowledge of root words, prefixes, and suffixes. The words are reassembled, identified, and placed back into context to verify meaning.

3. Various tools like the standard dictionaries, the Dictionary of Synonyms and Antonyms, and the thesaurus are commonly consulted in the classroom. The Oxford English Dictionary is a useful resource for etymology.

4. Students studying Greek mythology pay special attention to English derivations of Greek words.

Standard Number Twenty-Three

Vocabulary teaching should be part of teaching speech and writing as well as comprehension activities.

Representative activities that exemplify this standard:

1. In learning persuasive speaking, students identify persuasive words in advertisements, brochures, and political speeches.

2. In writing, students edit their own essays for more precise and vivid words with which to make their point; e.g., skinny could be svelte, skeletal, twiggy, or lithe.

3. Students build on their oral vocabulary by seeing variant forms; e.g., they know condition can be led to unconditional, conditional reflex; they know consent can be led to consensus.

4. Basic figures of speech (similes, metaphors, puns, parallelism, and alliteration--much used in commercials and political rhetoric) should be referred to in context.

SPECIALIZED COURSES IN WRITING AND SPEAKING

Standard Number Twenty-Four

> Students participate in specialized courses which integrate their skills and allow them to pursue their own interests.

Representative activities that exemplify this standard:

1. Students participate in speech/rhetoric classes, including experiences with debate, forensics, and orations.
2. Students participate in composition classes.
3. Students participate in creative writing classes.
4. Students participate in journalism classes.

ASSESSMENT METHODS CONSISTENT WITH THE NEW EMPHASIS

Standard Number Twenty-Five

> Assessment methods and tools should be aligned with the new emphasis (1) on substance, (2) on the integration of writing, comprehension, and speaking, and (3) on contextual acquisition of vocabulary and technical skills.

No single assessment tool is adequate to the range of educational attainments we envision for our students. Classroom teachers, students themselves, English departments, schools, and districts need to monitor, in ways appropriate to each, the success of the new program.

The following suggestions offer some preliminary thinking on how the standards could be monitored, following generally the order throughout this document.

1. The establishment of a core of literary works could be assessed by providing students with the school's or district's book list. Students will, from this list, develop their own personal list of books they intend to read prior to graduation. This list is kept in their files.
2. Close reading (in-depth reading) could be assessed by asking students to respond in writing to a literary selection or passage provided in the testing situation.
3. Essay questions could be created to deal specifically with important personal, aesthetic, and cultural values as related to particular books on a state, district, or school approved book list or short selections provided in the testing context.
4. Prompts could be created requiring students to address one or more major social issues embedded in a given literary work.
5. Students' participation in an extensive reading program could be assessed through survey questions asking students to report the number and types of books they have read during a given school year, the time they spend reading for pleasure, or specific titles of books students would recommend to others.
6. Integrated assessments of reading, speaking, listening, and writing based on human issues could be devised.
7. A series of assessment instruments could be created at the local level to help identify the developmental needs of students.
8. Literature, composition, and speech tests should emphasize substance.
9. Efforts could be made to design a direct writing assessment so that prewriting, drafting, revising, and editing could be incorporated into the testing situation.

10. In a direct writing assessment, certain prompts could be developed specifically to encourage students to demonstrate their own style of writing, to critique another's style, or to translate a piece of textbook prose into their own personal voice.

11. Reading and writing skills can be assessed in the context of other curricular areas such as science and social studies.

12. An integrated assessment of speaking and listening skills could be devised.

13. Vocabulary can be assessed as part of a reading test.

14. Spelling, punctuation, and usage can be assessed directly in student writing or through a multiple choice instrument.

Appendix

Recommended Readings in Literature

A List of Readings to Supplement the *English/Language Arts Model Curriculum Standards: Grades Nine Through Twelve*

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RECOMMENDED READINGS IN LITERATURE: GRADES NINE THROUGH TWELVE

I. INTRODUCTION

A question that persists in the dialogue between educators and the society that the schools serve is "What shall be taught?" This question suggests several others that are closely related. What must be taught to all students? What other materials should become part of a differentiated curriculum, structured to meet a varied student population?

In our zeal to meet the utilitarian educational needs of students, we have tended to lose sight of what should be central in the curriculum--the study of literature. As a result, many students experience little or no children's literature and enter high school with little awareness of fables, myths, fantasy stories, folk tales, and poetry. The major purposes of those who prepared this list of recommended readings is to encourage curriculum planners, educational policymakers, and the public to re-examine school curricula and, where necessary, to revitalize literature programs as an important vehicle for transmitting our cultural heritage and its values. They also urge the development locally of supplementary reading lists that are in concert with the thrust of the state's English/Language Arts Model Curriculum Standards: Grades Nine Through Twelve. Indeed, our basic premise is that no student should be denied experiences with literature. Selections used and teaching methodologies should be tailored to individual student needs and degrees of readiness, but basic concepts regarding our culture and its values that can be gained through experiences with literature should be available to all.

BASIC INTENT OF THIS DOCUMENT

At the outset we wish to emphasize that this list of recommended readings in literature is not intended to be prescriptive in any way. Indeed, the basic intent of those responsible for its preparation is that it serve as a guide for educators and policymakers at local levels. We hope that it will motivate them to develop literature programs as appropriate to needs in local communities, but always in the light of what is known about great literature. Substitutions and changes in this suggested organization of a literature program can be freely made but, we hope, only under an overarching banner of excellence in the selection policy used.

THE PROCESS FOR DEVELOPING THIS LIST OF RECOMMENDED READINGS IN LITERATURE

During recent months, we asked a number of educators throughout California to help us develop a list of recommended readings in literature. In addition to soliciting suggested titles, we also asked them to respond to a list we had prepared which was a composite of several others compiled and published by various publishers and organizations. One of the most significant among these is included in the recently published The Paideia Program, compiled by Mortimer J. Adler. Responses from these educators included suggested deletions of items not thought suitable, and suggested additions of titles that had not appeared. In addition, a number of respondents made more general suggestions about the composition of the list, as well as the structure and organization of the literature program. It, then, represents the considered opinions of a great number of informed people.

In recognition of the range of preparation of students who are in the secondary schools, we have included works of a wide range of difficulty. Many excellent books that are accessible to those who do not read well are on this list, as are shorter works that the less prepared students can read and respond to, in one or two class periods. Also included are very difficult pieces of literature that only advanced placement students could reasonably be expected to read. Those who participated in developing this first edition of a list of recommended readings emphasize the importance of reviewing it at prescribed intervals, and recommend that it be refined and updated on a regular schedule.

LOCAL DECISIONS ESSENTIAL

While many educators in a variety of institutions participated with their suggestions and comments, all agreed that a state-developed list of recommended readings in literature should be thought of as suggestions only, and that no one list will fit the needs of all the students and teachers in California. It is a resource that reflects the ideas of thoughtful educators in the state; however, decisions about local programs must be made locally. The materials that follow are neither exhaustive nor prescriptive. The body of literature from which titles are drawn is so rich that substitutions can be made for anything listed without diminishing the quality of the curriculum, so long as the criteria discussed in this introduction inform the selections.

IMPORTANCE OF LOCAL MATERIALS SELECTION POLICIES

Literature affects readers deeply, not only because of the artistry that enhances effectiveness, but also because it deals with the entire range of human experience and values. Not all are in agreement about what literature is appropriate for classroom assignment and study in the secondary schools. Because of this, it is essential that each school or school district have a materials selection policy that guides the purchase of materials for instruction and for school and classroom libraries. Each school district should have a policy for responding when materials selected are challenged, either by individuals or community groups. Both the American Library Association and the National Council of Teachers of English have published guidelines for developing policies on students' right to read.

TERMS USED

In the material that follows we have used the terms core, extended, and recreational readings as a way of categorizing the literature. The core literature program includes those selections which are to be taught, which are given close reading and intensive consideration, and which are likely to be an important stimulus for writing and discussion. Literature in the core program has emotional and intellectual substance for all students. By developing such an agreed-upon program, curriculum makers at the school and district level ensure that students will experience a sequential and comprehensive program in literature. Through a core literature program, students will have opportunities to learn how to understand and appreciate works in all of the genre and to become motivated to read more on a self-selected basis. Literature in the core program, then, is worthy of close study and analysis in class, and contains ideas of surpassing importance as civilization has evolved. Core program readings must appeal to both teacher and student, so that the student can respond to the intense study with interest and excitement, and the teacher can bring both enthusiasm and commitment to the task of bringing student and literature together. Each selection in the core program is a model of language as art, with the potential for affecting readers at several levels of perception and feeling.

Materials in the extended literature program are those that teachers recommend to students to extend the core literature program. Curriculum makers in the school and the district should compile lists for the extended program, and concur regarding the distribution of the titles across grade levels. Literature in the extended program, like that in the core program, has emotional, intellectual, and aesthetic substance, and will be appealing to students for their independent reading. The extended reading program will include literature at several difficulty levels, and may be augmented by media other than print. All of the readings address significant traditional and contemporary themes.

The literature for recreational/motivational reading is chosen in accordance with a local materials selection policy for inclusion in school and classroom libraries. It is accessible to students during regularly scheduled library periods, as well as before and after school. Recreational reading materials are also accessible to students through classroom libraries, book sales, book clubs, and other programs for bringing students and books together, and for encouraging wide reading. Such selections might be termed "good reads" to which students gravitate.

THE IMPORTANCE OF TEACHING IN AN EXCELLENT LITERATURE PROGRAM

Because of their difficulty, the most significant and compelling literary works must be taught, not merely assigned, and thus relatively few of the great works of literature can be closely addressed within a school year. On the other hand, bright, highly motivated students can and do read important, complex literature on their own, especially after they have learned how to respond through intensive reading and instruction in their classroom studies. Indeed, a skilled, informed, and resourceful teacher can bring to life for students much literature which might be thought of as too difficult for a particular group. The quality of a literature program, then, is directly related to the quality of teaching in the program.

LITERATURE FOR THE LESS PREPARED READERS

For many students, the selections in the thematic units in literature listed in Section III will be too difficult. In such cases, it is important that appropriate materials be substituted for the ones suggested. All students deserve the opportunity to encounter the underlying themes, concepts, and values implicit in the units, and so selections appropriate to their readiness should be employed. Titles listed in Section IV may be one source of substitutions.

Teachers in the field have pointed out that some students are simply not motivated, not interested in literature or reading of any kind. Others read at levels far below secondary school expectations. Some are not fluent in English yet, and some cannot read English at all. A number of different strategies can be used to bring these students into contact with literature:

- Select literature in which the content is appealing to secondary school students, but in which the language used makes it accessible to students with reading problems.

- Build the core program around shorter works, those that can be read and responded to in one or two class periods.

- Read aloud selections from longer core works with the students, and thus encourage them to proceed on their own.

- Use film, tapes, recordings, and other media as adjuncts to the literature program.

- Arrange for these students, and all the others, to attend live performances of plays and readings whenever this is possible.

- Actively and persistently carry on a periodic sale of paperback books as part of the extended reading program.

- Use materials in a limited-English-proficient student's own language, including translations of works originally printed in English.

- Use bilingual aides, tutors, or resource teachers to help students who need dual language assistance when reading literature printed in English.

- Accept the responsibil[illegible] for finding and employing appropriate materials and using appropriate teaching methodology to ensure that such students have meaningful experiences with literature.

OTHER MATTERS TO BE CONSIDERED

Literature produced by authors from racial and ethnic minority groups. Because the diversity of the American society should be reflected in the literature program that students encounter, it is important that excellent writing by authors from racial and ethnic minority groups be sought out and included. This should be done deliberately and with care at each grade level. To meet the needs of students not fluent in English, we urge that translations of the literature selected for local programs be made available.

The plays of William Shakespeare. Educators who participated in the development of this document agreed that students should encounter the plays of Shakespeare at several points in their school careers. Their experiences with Shakespearean drama could include both print and nonprint media, and encompass not only the tragedies, but the comedies and history plays as well. In the opinion of many, the latter have been lamentably ignored in typical school curricula.

The Bible as literature. There are a great many allusions and references to Biblical texts in much of literature. For students to understand these and their relevancy to the work being studied, they need some awareness of the Bible as it relates to and informs such literature. Accordingly, they should have the opportunity to read the most relevant of these texts including, possibly, Genesis, The Book of Job, The Psalms, The Epistles of St. Paul, and The Sermon on the Mount.

The place for literature anthologies. While the lists that follow make reference to individual works, we recognize that the traditional literature anthology is an important resource for classroom teachers--a resource that can be used to support local curriculum decisions. Nevertheless, we strongly urge that the literature program should consist of more than a set of adopted anthologies. Perforce, anthologies are prepared and published for a mass market. However, the efforts of those outside of the local school scene cannot substitute for the judgment and the wisdom of those who know their communities and their students at the school site level. Each local literature program should be unique, tied with others only in adherence to standards that describe the ideal program. Literature anthologies may have a place in such a program, but only if augmented by works selected under an established and informed policy.

Other ways to organize a literature curriculum. There are many ways to organize curricula in literature, each of which may be effective in meeting particular goals. Programs featuring genre studies, historical and period approaches, and curricula organized around great figures in literature are more typically found in colleges and universities. A number of authorities on literature programs in the secondary schools favor a thematic approach to organizing a literature curriculum, focusing upon the imaginative treatment of significant issues of human experience. In the material that follows, we have developed lists of titles that might be included in core, extended, and recreational/motivational reading programs. We then incorporated some of the titles into possible thematic units in literature as examples. In any event, we recommend that secondary school curricula be organized so that the literature illuminates significant aspects of human experience. Students need to learn that literature is not just to be admired, enshrined, and then forgotten; they must understand that literature can play an active role in their thinking and their appraisal of experience. Above all, we urge that the literature curriculum be one that local teachers can follow with enthusiasm and commitment, that the students find appealing and challenging, and that the community can point to with pride.

II. RECOMMENDED READING FOR A CORE AND EXTENDED LITERATURE PROGRAM

Adoff, Arnold (ed.). Black Out Loud.

Agee, James. Death in the Family.

Alcott, Louisa May. Little Women.

Allen, Samuel (Paul Vesey). "American Gothic."

Allen, Terry (ed.). The Whispering Wind.

Anaya, Rudolfo. Bless Me Ultima.

Anderson, Sherwood. Winesburg, Ohio.

Angelou, Maya. I Know Why the Caged Bird Sings.

Annixter, Paul. Swiftwater.

Auden, W. H. "The Unknown Citizen;" and other works.

St. Augustine. The Confessions of Augustine, Bks. I-VII.

Aurelius, Marcus. Meditations.

Austen, Jane. Pride and Prejudice; and other works.

Baldwin, James. Go Tell It on the Mountain, and other works.

Beckett, Samuel. Act Without Words: A Mime for Two Players; Waiting for Godot; and other works.

Benet, Stephen Vincent. "The Devil and Daniel Webster;" "By the Waters of Babylon;" "John Brown's Body;" and other works.

Bill of Rights to the U.S. Constitution.

Blake, William. Songs of Innocence and Songs of Experience.

Blos, Joan. A Gathering of Days: A New England Girl's Journal, 1830-32.

Bolt, Robert. A Man for All Seasons.

Boulle, Pierre. Bridge Over the River Kwai.

Bradbury, Ray. Martian Chronicles; and other works.

Brautigan, Richard. "All Watched Over by Machines of Loving Grace;" "Gee, You're So Beautiful That It's Starting to Rain;" and other works.

Bronte, Charlotte. Jane Eyre; and other works.

Bronte, Emily. Wuthering Heights.

Brooke, Rupert. "The Soldier;" and other works.

Browning, E. B. *Sonnets from the Portuguese*.

Browning, Robert. *The Complete Poetical Works of Browning* (selections from).

Bryant, William C. "Thanatopsis;" "To a Waterfowl;" and other works.

Buck, P. *The Good Earth*.

Burns, Robert. *The Poetical Works of Burns* (selections from).

Campton, David. *Then*.

Camus, Albert. *The Stranger*.

Capote, Truman. *A Christmas Memory*.

Caras, Roger. *The Forest*; and other works.

Carroll, Lewis. *Alice's Adventures in Wonderland*.

Carson, Rachel. *The Sea Around Us*; *Under the Sea Wind*; and *Silent Spring*.

Cather, Willa. *My Antonia*; "Neighbor Rosicky;" *Pioneers*; "Paul's Case;" *Death Comes for the Archbishop*; *Lucy Gayheart*; *Shadows on the Rock*; and *The Professor's House*.

Catton, B. *A Stillness at Appomattox*.

Cavafy, V. "Ithaka."

Cervantes, Miguel de. *Don Quixote*.

Chaucer, Geoffrey. *Canterbury Tales* (selections from).

Chekhov, P. Anton. *The Cherry Orchard*; and *Sea Gull*; and other works.

Chief Joseph. "From Where the Sun Now Stands."

Churchill, Winston. "Blood, Sweat, and Tears" Speech; "Iron Curtain" Speech at Westminster College, Missouri; and other works.

Chute, Marchette. *Shakespeare of London*.

Clark, Walter van Tilburg. *The Ox Bow Incident*; and other works.

Clarke, James M. *The Life and Adventures of John Muir*.

Coleridge, Samuel Taylor. "Kubla Khan;" *The Poems of Samuel Taylor Coleridge*; and other works.

Collier, James. *My Brother Sam Is Dead*.

Collier, John. "Thus I Refute Beelzy."

Conrad, Joseph. Heart of Darkness; Lord Jim; The Secret Sharer; and other works.

Cormier, Robert. I Am the Cheese; and other works.

Cousteau, Jacques. Silent World.

Cousteau, Jacques, and Dugan, J. The Living Sea.

Crane, Stephen. "The Open Boat;" The Red Badge of Courage; and other works.

cummings, e. e. "a man who had fallen among thieves;" and other works.

Curie, Eve. Madame Curie.

Darrow, Clarence. "Crime and Criminals."

Davis, Ossie. Escape to Freedom; and Langston.

deBois, W. E. B. "Of Mr. Booker T. Washington," in Souls of Black Folk.

Declaration of Independence of the United States of America.

Defoe, Daniel. Robinson Crusoe.

DeLoria, Vine. Custer Died for Your Sins.

de Tocqueville, Alexis. Democracy in America.

Dickens, Charles. David Copperfield; Great Expectations; A Tale of Two Cities; Hard Times; and other works.

Dickey, James. Deliverance.

Dickinson, Emily. "The Soul Selects Her Own Society;" "There's Been a Death;" and other works.

Dostoevsky, Fyodor. Crime and Punishment; Notes from the Underground; The Brothers Karamazov; and other works.

Douglass, Frederick. Narrative of the Life of Frederick Douglass.

Doyle, A. C. The Hound of the Baskervilles; and other works.

DuMaurier, Daphne. Rebecca.

Dumas, A. The Count of Monte Cristo.

Duncan, Lois. Stranger With My Face.

Eisley, Loren. The Immense Journey; and other works.

Eliot, George. Mill on the Floss; and other works.

Eliot, T. S. "The Hollow Men;" and other works.

Ellison, Ralph. Invisible Man; and other works.

Emerson, R. W. "Self Reliance;" and other works.

Euripides. Medea; and other works.

Fast, Howard. April Morning.

Faulkner, William. Intruder in the Dust; and other works.

Ferber, Edna. Cimarron; Show Boat; and other works.

Fitzgerald, F. Scott. The Great Gatsby; and other works.

Forbes, Esther. Johnny Tremaine.

Forbes, Kathryn. Mama's Bank Account.

Forester, C. The African Queen; and other works.

Fox, Paula. The Slave Dancer.

Frank, Anne. Anne Frank: The Diary of a Young Girl.

Franklin, Benjamin. Autobiography (selections from).

Fritz, Jean. Homesick; and other works.

Frost, Robert. "Death of a Hired Man;" "The Road Not Taken;" and other works.

Fuentes, Carlos. Good Conscience.

Galarza, Ernesto. Spiders in the House; and Merchants of Fear.

George, Jean Craighead. Journey Inward; and other works.

Gibson, William. The Miracle Worker.

Gipson, Fred. Old Yeller.

Gogol, Nicolai. "The Overcoat;" and other works.

Golding, William. Lord of the Flies.

Greene, Bette. The Summer of My German Soldier.

Greene, Graham. The Power and the Glory; and other works.

Guthrie, A. B. The Big Sky.

Haley, Alex. Roots (selections from).

Hall, Donald. "Man in the Dead Machine;" and other works.

Hansberry, Lorraine. Raisin in the Sun; To Be Young, Gifted, and Black (selections from).

Hardy, Thomas. "The Man He Killed;" Return of the Native; Tess of the D'Urbervilles; The Mayor of Casterbridge; and other works.

Hawthorne, Nathaniel. The Scarlet Letter; and other works.

Hayden, Robert. "Mourning Poem for the Queen of Sunday;" and other works.

Heller, Joseph. Catch 22.

Hemingway, Ernest. A Farewell to Arms; For Whom the Bell Tolls; "In Another Country;" Old Man and the Sea; "Soldiers Home;" "The Killers;" The Sun Also Rises; and other works.

Hersey, John. Hiroshima; and other works.

Heyerdahl, Thor. Kon-Tiki (selections from); and other works.

Homer. The Odyssey: "Return to Ithaca;" The Iliad; and other works.

Houston, Jeanne, and Houston, James. Farewell to Manzanar.

Hughes, Langston. "Florida Road Workers;" "I, Too, Sing 'America';" and other works.

Hughes, Richard. A High Wind in Jamaica.

Hugo, V. Les Miserables; and other works.

Huxley, Aldous. Brave New World.

Ibsen, Henrik. A Doll's House; and other works.

Irving, Washington. "The Legend of Sleepy Hollow;" "Rip Van Winkle;" and other works.

Jackson, Shirley. "Charles;" "The Lottery;" and other works.

James, Henry. Washington Square; The Turn of the Screw; and other works.

Jarrell, Randall. "Death of a Ball Turret Gunner;" and other works.

Jeffers, Robinson. "Skunks;" and other works.

Johnson, Dorothy. Buffalo Woman; and other works.

Joyce, James. Portrait of the Artist as a Young Man; The Dubliners; and other works.

Kafka, Franz. "Hunger Artist;" "Metamorphosis;" "Penal Colony;" and other works.

Keller, Helen. Story of My Life.

Kennedy, J. F. "Berlin Speech;" and other works.

King, Martin Luther. "I Have a Dream;" and other works.

Kipling, Rudyard. Kim; and other works.

Knowles, John. A Separate Peace.

Lasky, Kathryn. Beyond the Divide.

Lawrence, D. H. "The Rocking-Horse Winner" from The Collected Short Stories of D. H. Lawrence, Vol. 3; and other works.

Lawrence, Jerome, and Lee, Robert E. Inherit the Wind; and The Night Thoreau Spent in Jail.

Lee, Harper. To Kill a Mockingbird.

Le Guin, Ursula. Earthsea Trilogy; and other works.

Leinster, Murray. "Keyhole;" "First Encounter;" and other works.

Levertov, Denise. "What Were They Like?" and other works.

Lewis C. S. Perelandra; Out of the Silent Planet; and other works.

Lewis, Sinclair. Babbit; Main Street.

Lilienthal, David. "My Faith in Democracy."

Lincoln, Abraham. "2nd Inaugural;" "Gettysburg Address;" and other works.

Llewellyn, Richard. How Green Was My Valley.

Longfellow, Henry W. "My Lost Youth;" and other works.

Malcolm X. Autobiography of Malcolm X.

Markham, Edwin. "The Man with a Hoe;" and other works.

Masters, Edgar Lee. Spoon River Anthology.

Maugham, W. Somerset. Of Human Bondage; "The Verger;" and other works.

McCullers, Carson. A Member of the Wedding; The Heart Is a Lonely Hunter.

Melville, Herman. Billy Budd; Moby Dick; and other works.

Michener, J. The Bridges at Toko-Ri; Chesapeake; and other works.

Miller, Arthur. Death of a Salesman; The Crucible; All My Sons; and other works.

Milton, John. "On His Blindness," and other works.

Moliere, Jean B. "The Doctor in Spite of Himself;" and other plays.

More, Thomas (Sir). Utopia.

Neihardt, John. Black Elk Speaks.

Nordhoff, Charles, and Hall, James N. Mutiny on the Bounty.

O'Connor, Flannery. Everything that Rises Must Converge; and "The Life You Save May Be Your Own."

Orwell, George. 1984; Animal Farm.

Owen, Wilfred. "Dulce Et Decorum Est."

Paton, Alan. Cry, the Beloved Country.

Petry, Ann. Harriet Tubman: Conductor of the Underground Railroad; Tituba; The Street; and other works.

Plato. The Death of Socrates; and other works.

Poe, Edgar Allen. "The Pit and the Pendulum;" "The Tell Tale Heart;" Fall of the House of Usher and Other Tales; and other works.

Porter, Katherine Anne. Pale Horse, Pale Rider; and other works.

Potok, Chaim. The Promise.

Pyle, Howard. Men of Iron.

Rabearivelo, Jean-Joseph. "Flute Players."

Rawlings, Marjorie K. The Yearling; Cross Creek; and other works.

Reed, Henry. "The Naming of Parts;" and other works.

Remarque, Erich. All Quiet on the Western Front.

Richter, Conrad. Light in the Forest; and other works.

Robinson, E. A. "Mr. Flood's Party;" "Richard Cory;" and other works.

Rolvaag, O. E. Giants in the Earth; and other works.

Russ, Joanna. The Female Man.

Salinger, J. D. The Catcher in the Rye; Franny and Zooey; and other works.

Sandburg, Carl. Abe Lincoln Grows Up; and other works.

Sargent, Pamela. The Alien Upstairs.

Saroyan, W. The Human Comedy; and other works.

Sassoon, Siegfried. "Aftermath;" and other works.

Shakespeare, William. *Hamlet*; *Henry V*; *Macbeth*; *Midsummer Night's Dream*; *Othello*; *The Merchant of Venice*; and other works.

Shapiro, Karl. "Travelogue for Exiles;" "Auto Wreck;" and other works.

Shaw, G. B. *Pygmalion*; and other works.

Shelley, Mary. *Frankenstein*.

Shelley, Percy Bysshe. "Ozymandias;" and other works.

Sojourner Truth. "Ain't I a Woman?"

Solzhenitsyn, Alexander. *One Day in the Life of Ivan Denisovich*.

Sone, Monica. *Nisei Daughter*.

Sophocles. *Oedipus the King*; *Antigone*; and other works.

Stafford, William. "Fifteen;" and other works.

Steinbeck, John. *The Grapes of Wrath*; *The Pearl*; *The Red Pony*; *Of Mice and Men*; and other works.

Stevenson, R. L. *The Strange Case of Dr. Jekyll and Mr. Hyde*; *Treasure Island*; *Kidnapped*; and other works.

Stowe, Harriet Beecher. *Uncle Tom's Cabin*.

Stuart, Jesse. *The Thread That Runs so True*.

Swift, Jonathan. *Gulliver's Travels*; and other works.

Taylor, Mildred. *Roll of Thunder Hear My Cry*.

Teasdale, Sarah. "There Will Come Soft Rains: War Time;" and other works.

Tennyson, Alfred. "The Charge of the Light Brigade;" and other works.

Thackeray, W. M. *Vanity Fair*.

The Federalist Papers (selections from).

Thomas, Dylan. "Fern Hill;" "The Hand That Signed the Paper;" "Under Milkwood;" and other works.

Thoreau, Henry. "Civil Disobedience" (selections from); and *Walden*.

Thurber, James. *My World--And Welcome To It*; and other works.

Tolkein, J. R. R. *The Trilogy of the Ring*; and other works.

Tolstoy, Leo. *Anna Karenina*; *War And Peace*; and other works.

Twain, Mark. *Life on the Mississippi* (selections from); *The Adventures of Huckleberry Finn*; *The Adventures of Tom Sawyer*; and other works.

Uchida, Yoshiko. *Desert Exile: The Uprooting of a Japanese-American Family*; and *Samurai of Gold Hill*.

Vanzetti, Bartolomeo, and Sacco, Nicola. *Last Words.*

Verne, Jules. *Twenty Thousand Leagues Under the Sea*; *Around the World in Eighty Days*; and other works.

Virgil. *The Aeneid of Virgil* (selections from).

Voltaire, M. Francois. *Candide*.

Vonnegut, K. *Slaughter House Five*; and *Cat's Cradle*.

Walker, Alice. "African Images;" and other works.

Walker, Margaret. *Jubilee*.

Warren, Robert Penn. *All the King's Men*; and other works.

Wells, H. G. *War of the Worlds*; and other works.

Wharton, Edith. *Ethan Frome*.

White, T. H. *The Once and Future King*.

Whitman, Walt. "The Ox-Tamer;" and other works.

Wilde, Oscar. *The Picture of Dorian Grey*; and other works.

Wilder, Thornton. *Our Town*; *The Bridge of San Luis Rey*; and other works.

Williams, William Carlos. *Selected Poems of William Carlos Williams*.

Williams, Tennessee. *The Glass Menagerie*; and other works.

Wolfe, Thomas. *You Can't Go Home Again*; *Look Homeward Angel*; and other works.

Wong, Jade Snow. *Fifth Chinese Daughter*.

Wright, Richard. *Black Boy*; *Native Son*; and other works.

Yep, Laurence. *Dragonwings*; and other works.

Etc.

III. EXAMPLES OF POSSIBLE THEMATIC UNITS IN LITERATURE INCORPORATING CORE AND EXTENDED READING PROGRAMS

In this section we have developed a number of sample thematic units in literature to illustrate one way of organizing some of the titles listed in Section II. Most of the following examples of possible thematic units in literature are purposely incomplete. We invite interested educators to augment or to change the titles listed, keeping the theme in mind and also the appropriateness of selections to the needs of students with whom they work. Those who work with less prepared and language minority students will particularly need to consider substitutions of titles that students can handle.

Many other themes under which literature might be organized are, of course, possible. However, we urge educators to keep in mind that thematic units in literature are merely organizing devices which can help to evoke discussion and writing. Each literary work is an entity in and of itself and is likely to have much more to say than can be encompassed in a particular theme. With this in mind, we urge that educators be careful not to bend the work to the theme excessively and that, indeed, they also consider other ways for organizing a literature program.

Theme A: Search for Justice and Dignity

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Clark, Walter van Tilburg. The Ox Bow Incident. 2. Hawthorne, Nathaniel. The Scarlet Letter. 3. Orwell, George. Animal Farm	1. Baldwin, James. Go Tell It on the Mountain. 2. Ellison, Ralph. Invisible Man. 3. Fox, Paula. The Slave Dancer. 4. Lee, Harper. To Kill a Mockingbird. 5. Melville, Herman. Billy Budd. 6. Neihardt, John. Black Elk Speaks. 7. Steinbeck, John. The Grapes of Wrath. 8. Walker, Margaret. Jubilee 9. Warren, Robert Penn. All the King's Men. 10. Wilder, Thornton. The Bridge of San Luis Rey. 11. Etc.
DRAMA:	
1. Miller, Arthur. The Crucible. 2. Ibsen, Henrik. A Doll's House. 3. Shakespeare, W. The Merchant of Venice	1. Bolt, Robert. A Man for All Seasons. 2. Davis, Ossie. Langston. 3. Hansberry, Lorraine. Raisin in the Sun. 4. Lawrence, Jerome, and Lee, Robert E. Inherit the Wind. 5. Lawrence, Jerome, and Lee, Robert E. The Night Thoreau Spent in Jail. 6. Miller, Arthur. Death of a Salesman. 7. Plato. The Death of Socrates. 8. Etc. (See Section V.)
ESSAY/NONFICTION:	
1. Thoreau, Henry. Civil Disobedience, Selections from. 2. Lincoln, Abraham. 2nd Inaugural.	1. DeLoria, Vine. Custer Died for Your Sins. 2. Hansberry, Lorraine. To Be Young, Gifted, and Black, Selections from. 3. Etc. (See Section V.)
SPEECHES:	
1. King, Martin Luther. "I Have a Dream." 2. John Brown's Last Speech from John Brown's Body.	1. Chief Joseph. "From Where the Sun Now Stands." 2. Darrow, Clarence. "Crime and Criminals."

Core readings	Extended readings
SPEECHES (cont.):	
	3. Kennedy, J. F. "Berlin Speech." 4. Lilienthal, David. "My Faith in Democracy." 5. Lincoln, Abraham. "Gettysburg Address." 6. Sojourner Truth. "Ain't I a Woman?" 7. Vanzetti, Bartolomeo, and Sacco, Nicola. "Last Words." 8. Etc. (See Section V.)
SHORT STORY:	
1. Benet, Stephen Vincent. "The Devil and Daniel Webster." 2. Jackson, Shirley. "The Lottery."	1. Gogol, Nicolai. "The Overcoat." 2. Etc. (See Section V.)
POETRY:	
1. Benet, Stephen Vincent. *John Brown's Body*. 2. Dickinson, Emily. "The Soul Selects Her Own Society." 3. Markham, Edwin. "The Man with a Hoe."	1. Adoff, Arnold (ed.). *Black Out Loud*. 2. Allen, Terry (ed.). *The Whispering Wind*. 3. Hughes, Langston. "Florida Road Workers"; "I, Too, Sing 'America'." 4. Shelley, Percy Bysshe. "Ozymandias." 5. Etc. (See Section V.)
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	
1. Angelou, Maya. *I Know Why the Caged Bird Sings*. 2. Malcolm X. *Autobiography of Malcolm X*.	1. deBois, W. E. B. "Of Mr. Booker T. Washington," in *Souls of Black Folk*. 2. Haley, Alex. *Roots*. 3. Houston, Jeanne and James. *Farewell to Manzanar*. 4. Sandburg, Carl. *Abe Lincoln Grows Up*. 5. Wong, Jade Snow. *Fifth Chinese Daughter*. 6. Wright, Richard. *Black Boy*. 7. Etc.

Theme B: New Americans and the Immigration Experience

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Cather, Willa. My Antonia. 2. Sone, Monica. Nisei Daughter	1. Anaya, Rudolfo. Bless Me Ultima. 2. Cather, Willa. Pioneers. 3. Collier, James. My Brother Sam Is Dead. 4. Forbes, Esther. Johnny Tremaine. 5. Forbes, Kathryn. Mama's Bank Account. 6. Lasky, Kathryn. Beyond the Divide. 7. Potok, Chaim. The Promise 8. Rolvaag, O. E. Giants in the Earth. 9. Yep, Laurence. Dragonwings. 10. Etc.
DRAMA:	
1. Miller, Arthur. The Crucible.	
ESSAY/NONFICTION:	
1. Declaration of Independence of the United States of America. 2. de Tocqueville, Alexis. Democracy in America.	

Core readings	Extended readings
SPEECHES:	
SHORT STORY:	
1. Benet, Stephen Vincent. "The Devil and Daniel Webster."	
2. Cather, Willa. "Neighbor Rosicky."	
POETRY:	
1. Shapiro, Karl. "Travelogue for Exiles."	
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	
	1. Houston, Jeanne, and James. Farewell to Manzanar. 2. The Federalist Papers (selections from). 3. Etc.

Theme C: Experiences with War and Peace

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Crane, Stephen. The Red Badge of Courage.	1. Boulle, Pierre. Bridge Over the River Kwai.
2. Hemingway, Ernest. A Farewell to Arms.	2. Collier, James. My Brother Sam Is Dead.
	3. Fast, Howard. April Morning.
	4. Forbes, Esther. Johnny Tremain.
	5. Heller, Joseph. Catch 22.
	6. Hemingway, Ernest. For Whom the Bell Tolls.
	7. Knowles, John. A Separate Peace.
	8. Vonnegut, K. Slaughterhouse Five.
	9. Etc.
DRAMA:	
1. Campton, David. Then.	1. Shakespeare, William. Henry V.
	2. Etc. (See Section V.)
ESSAY/NONFICTION:	
1. Declaration of Independence of the United States of America.	
SPEECHES:	
	1. Churchill, Winston. "Blood, Sweat, and Tears" Speech; "Iron Curtain" Speech at Westminster College, Missouri.
	2. Etc. (See Section V.)

Core readings	Extended readings
SHORT STORY:	
1. Hemingway, Ernest. "In Another Country." 2. Hemingway, Ernest. "Soldiers Home."	
POETRY:	
1. Benet, Stephen Vincent. *John Brown's Body*. 2. Hall, Donald. "Man in the Dead Machine." 3. Sassoon, Siegfried. "Aftermath."	1. Brooke, Rupert. "The Soldier." 2. Hardy, Thomas. "The Man He Killed." 3. Jarrell, Randall. "Death of a Ball Turret Gunner." 4. Jeffers, Robinson. "Skunks." 5. Levertov, Denise. "What Were They Like?" 6. Owen, Wilfred. "Dulce Et Decorum Est." 7. Reed, Henry. "The Naming of Parts." 8. Teasdale, Sarah. "There Will Come Soft Rains: War Time." 9. Thomas, Dylan. "The Hand That Signed the Paper." 10. Etc. (See Section V.)
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	

Theme D: Individuals and the Need for Acceptance

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Baldwin, James. *Go Tell It on the Mountain*. 2. Salinger, J. D. *The Catcher in the Rye*. 3. Steinbeck, John. *Of Mice and Men*.	1. Greene, Bette. *The Summer of My German Soldier*. 2. Richter, Conrad. *The Light in the Forest*. 3. Steinbeck, John. *The Grapes of Wrath*. 4. Etc.
DRAMA:	
1. Miller, Arthur. *Death of a Salesman*. 2. Williams, Tennessee. *The Glass Menagerie*.	
ESSAY/NONFICTION:	
SPEECHES:	
SHORT STORY:	
1. Jackson, Shirley. "Charles." 2. Wells, H. G. "The Country of the Blind."	

Core readings	Extended readings
POETRY:	
1. Frost, Robert. "Death of a Hired Man."	1. cummings, e. e. "a man who had fallen among thieves."
2. Robinson, E. A. "Richard Cory."	2. Rabearivelo, Jean-Joseph. "Flute Players."
	3. Robinson, E. A. "Mr. Flood's Party."
	4. Stafford, William. "Fifteen. "
	5. Etc. (See Section V.)
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	

Theme E: Passages and Transformations

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Ellison, Ralph. The Invisible Man.	1. Anaya, Rudolfo. Bless Me Ultima.
2. Salinger, J. D. The Catcher in the Rye.	2. Gipson, Fred. Old Yeller.
3. Salinger, J. D. Franny and Zooey.	3. Llewellyn, Richard. How Green Was My Valley.
	4. Rawlings, Marjorie K. The Yearling.
	5. Steinbeck, John. The Red Pony.
	6. Etc.
DRAMA:	
1. Shakespeare, William. Hamlet.	1. Davis, Ossie. Escape to Freedom.
2. Wilder, Thornton. Our Town.	2. Gibson, William. The Miracle Worker.
	3. Shaw, G. B. Pygmalion.
	4. Etc. (See Section V.)
ESSAY/NONFICTION:	
SPEECHES:	
SHORT STORY:	
1. Capote, Truman. "A Christmas Memory."	

Core readings	Extended readings
POETRY:	
1. Bryant, William C. "Thanatopsis." 2. Bryant, William C. "To a Waterfowl." 3. Dickinson, Emily. "There's Been a Death." 4. Hayden, Robert. "Mourning Poem for the Queen of Sunday." 5. Thomas, Dylan. "Fern Hill."	1. Allen, Samuel (Vesey, Paul). "American Gothic." 2. Brautigan, Richard. "Gee, You're So Beautiful That It's Starting to Rain." 3. Cavafy, V. "Ithaka." 4. Homer. The Odyssey: "Return to Ithaca." 5. Longfellow, Henry W. "My Lost Youth." 6. Etc. (See Section V.)
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	
	1. Frank, Anne. Anne Frank: Diary of a Young Girl. 2. Fritz, Jean. Homesick. 3. Etc.

Theme F: The Individual and Society

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Austen, Jane. Pride and Prejudice. 2. Fitzgerald, F. Scott. The Great Gatsby. 3. Hawthorne, Nathaniel. The Scarlet Letter.	1. Camus, Albert. The Stranger. 2. Cormier, Robert. I Am the Cheese. 3. Dickens, Charles. David Copperfield. 4. Dostoevsky, Fyodor. Crime and Punishment. 5. Fuentes, Carlos. Good Conscience. 6. McCullers, Carson. The Heart Is a Lonely Hunter. 7. Tolstoy, Leo. Anna Karenina. 8. Vonnegut, K. Cat's Cradle. 9. Wharton, Edith. Ethan Frome. 10. Etc.
DRAMA:	
1. Beckett, Samuel. Act Without Words: A Mime for Two Players. 2. Ibsen, Henrik. A Doll's House.	
ESSAY/NONFICTION:	
1. Bill of Rights to the U.S. Constitution. 2. Emerson, R. W. "Self Reliance." 3. Thoreau, Henry. Walden.	1. Uchida, Yoshiko. Desert Exile: The Uprooting of a Japanese-American Family. 2. Voltaire, M. Francois. Candide. 3. Etc. (See Section V.)

Core readings	Extended readings
SPEECHES:	
SHORT STORY:	
1. Jackson, Shirley. "The Lottery."	
POETRY:	
1. Frost, Robert. "The Road Not Taken."	1. Allen, Terry (ed.). The Whispering Wind. 2. Etc. (See Section V.)
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	
1. Wright, Richard. Black Boy.	1. Douglass, Frederick. Narrative of the Life of Frederick Douglass. 2. Frank, Anne. Anne Frank: Diary of a Young Girl. 3. Johnson, Dorothy. Buffalo Woman. 4. Etc.

Theme G: Journey to Personal Fulfillment

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Dickens, Charles. Great Expectations. 2. Twain, Mark. The Adventures of Huckleberry Finn.	1. Blos, Joan. A Gathering of Days. 2. Bronte, Charlotte. Jane Eyre. 3. Bronte, Emily. Wuthering Heights. 4. Forester, C. The African Queen. 5. Hemingway, Ernest. A Farewell to Arms. 6. Melville, Herman. Moby Dick. 7. Steinbeck, John. The Pearl. 8. Twain, Mark. The Adventures of Tom Sawyer. 9. Wilde, Oscar. The Picture of Dorian Grey. 10. Etc.
DRAMA:	
1. Shaw, G. B. Pygmalion.	
ESSAY/NONFICTION:	
1. Twain, Mark. Life on the Mississippi, Selections from.	
SPEECHES:	

Core readings	Extended readings
SHORT STORY:	
1. Cather, Willa. "Paul's Case."	
2. Kafka, Franz. "Hunger Artist."	
POETRY:	
1. Auden, W. H. "The Unknown Citizen."	1. Browning, E. B. *Sonnets from the Portuguese*.
2. Eliot, T. S. "The Hollow Men."	2. Walker, Alice. "African Images."
3. Whitman, Walt. "The Ox-Tamer."	3. Etc. (See Section V.)
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	
	1. Curie, Eve. *Madame Curie*.
	2. George, Jean Craighead. *Journey Inward*.
	3. Keller, Helen. *Story of My Life*.
	4. Etc.

Theme H: A Time for Courage

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Conrad, Joseph. *Heart of Darkness*. 2. Hemingway, Ernest. *Old Man and the Sea*.	1. Conrad, Joseph. *Lord Jim*. 2. Dickey, James. *Deliverance*. 3. Golding, William. *Lord of the Flies*. 4. Lee, Harper. *To Kill a Mockingbird*. 5. Nordhoff, Charles, and Hall, James N. *Mutiny on the Bounty*. 6. Remarque, Erich. *All Quiet on the Western Front*. 7. Taylor, Mildred. *Roll of Thunder Hear My Cry*. 8. Uchida, Yoshiko. *Samurai of Gold Hill*. 9. Etc.
DRAMA:	
1. Shakespeare, William. *Othello*. 2. Sophocles. *Oedipus the King*.	
ESSAY/NONFICTION:	
1. *Declaration of Independence*.	
SPEECHES:	
1. Churchill, Winston. "Blood, Sweat, and Tears" Speech.	

Core readings	Extended readings
SHORT STORY:	
1. Crane, Stephen. "The Open Boat." 2. Hemingway, Ernest. "The Killers." 3. O'Connor, Flannery. "The Life You Save May Be Your Own."	
POETRY:	
1. Milton, John. "On His Blindness." 2. Tennyson, Alfred. "The Charge of the Light Brigade."	
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	
1. Petry, Ann. Harriet Tubman: Conductor of the Underground Railroad. 2. Sandburg, Carl. Abe Lincoln Grows Up.	1. Angelou, Maya. I Know Why the Caged Bird Sings. 2. Etc.

Theme I: Fantasy and the Unexplained

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Shelley, Mary. Frankenstein.	1. Bradbury, Ray. Martian Chronicles. 2. Duncan, Lois. Stranger with My Face. 3. Le Guin, Ursula. Earthsea Trilogy. 4. Stevenson, R. L. The Strange Case of Dr. Jekyll and Mr. Hyde. 5. Tolkein, J. R. R. The Trilogy of the Ring. 6. Verne, Jules. Twenty Thousand Leagues Under the Sea. 7. Wells, H. G. War of the Worlds. 8. Wilde, Oscar. The Picture of Dorian Grey. 9. Etc.
DRAMA:	
	1. Shakespeare, William. A Midsummer Night's Dream. 2. Etc. (See Section V.)
ESSAY/NONFICTION:	
SPEECHES:	

Core readings	Extended readings
SHORT STORY:	
1. Poe, Edgar Allen. "The Pit and the Pendulum." 2. Poe, Edgar Allen. "The Tell Tale Heart."	1. Collier, John. "Thus I Refute Beelzy." 2. Irving, Washington. "The Legend of Sleepy Hollow." 3. Irving, Washington. "Rip Van Winkle." 4. Leinster, Murray. "Keyhole." 5. Etc. (See Section V.)
POETRY:	
1. Coleridge, Samuel Taylor. "Kubla Khan."	
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	

Theme J: The Environment and the Touched and Untouched Earth

Core readings	Extended readings
NOVEL/NOVELLA:	
1. Caras, Roger. The Forest.	1. Annixter, Paul. Swiftwater. 2. Michener, James. Chesapeake. 3. Etc.
DRAMA:	
ESSAY/NONFICTION:	
1. Carson, Rachel. The Sea Around Us. 2. Eisley, Loren. The Immense Journey. 3. Thoreau, Henry David. Walden.	1. Carson, Rachel. Under the Sea Wind. 2. Cousteau, Jacques. Silent World. 3. Cousteau, Jacques, and Dugan, J. The Living Sea. 4. Etc.
SPEECHES:	

Core readings	Extended readings
SHORT STORY:	
POETRY:	
1. Brautigan, Richard. "All Watched Over by Machines of Loving Grace."	
BIOGRAPHY/AUTOBIOGRAPHY/MEMOIR:	
	1. Clarke, James M. *The Life and Adventures of John Muir*. 2. Heyerdahl, Thor. *Kon-Tiki*. 3. Etc.

IV. LITERATURE FOR RECREATIONAL/MOTIVATIONAL READING

A. Books That Have Been Singled Out for Honors by Recommending Agencies

These books have been honored by one or more of the following:

1. Newbery Award
2. American Library Association--Young Adult Services Division
3. School Library Journal
4. *New York Times*

Adams, Richard. *Watership Down.*

Alexander, Lloyd. *The High King.*

Angelou, Maya. *Singin' and Swingin' and Gettin' Merry Like Christmas.*

Armstrong, William H. *Sounder.*

Bradford, Richard. *Red Sky at Morning.*

Bredes, Don. *Hard Feelings.*

Bridgers, Sue Ellen. *Home Before Dark.*

Byars, Betsy. *Summer of the Swans.*

Clark, Ann Nolan. *Secret of the Andes.*

Cleaver, Vera and Bill. *Trial Valley*; *Where the Lilies Bloom.*

Cooper, Susan. *The Grey King.*

de Trevino, Elizabeth Borton. *I, Juan de Pareja.*

Donovan, John. *I'll Get There, It Better Be Worth the Trip*; *Wild in the World.*

Gaines, Ernest. *The Autobiography of Miss Jane Pittman.*

George, Jean Craighead. *Julie of the Wolves.*

Graham, Robin. *Dove.*

Gray, Elizabeth Janet. *Adam of the Road.*

Guest, Judith. *Ordinary People.*

Guy, Rosa. The Friends.

Hall, Lynn. Sticks and Stones.

Hamilton, Virginia. M. C. Higgins the Great.

Hinton, S. E. Rumble Fish; That Was Then, This Is Now; The Outsiders.

Holland, Isabelle. Man Without a Face.

Hunt, Irene. Up a Road Slowly.

Jordan, June. In His Own Where.

Kerr, M. E. Is That You, Miss Blue?

Krumgold, Joseph. . . . and now Miguel; Onion John.

L'Engle, Madeleine. A Wrinkle in Time.

Lueders, Edward, and St. John, Primus (eds.). Zero Makes Me Hungry, A Collection of Poems for Today.

Maclaine, Shirley. You Can Get There from Here.

Maclean, Alistair. Circus.

Mathis, Sharon Bell. Teacup Full of Roses.

Mazer, Norma Fox. Dear Bill, Remember Me?

Meltzer, Milton. Never to Forget: The Jews of the Holocaust.

Mohr, Nicholasa. El Bronx Remembered; Nilda.

Neville, Emily. It's Like This, Cat.

O'Brien, Robert C. Z for Zachariah.

O'Dell, Scott. Island of the Blue Dolphins.

Paterson, Katherine. Bridge to Terabithia; Jacob Have I Loved.

Patterson, Sarah. The Distant Summer.

Peck, Richard. Are You in the House Alone?

Peck, Robert Newton. A Day No Pigs Would Die.

Potok, Chaim. My Name is Asher Lev; The Chosen.

Read, Piers Paul. Alive: The Story of the Andes Survivors.

Sargent, P. (ed.). Women of Wonder: Science Fiction by Women, About Women.

Scoppettone, Sandra. Trying Hard to Hear You.

Sherman, D. R. The Lion's Paw.

Sleator, William. House of Stairs.

Speare, Elizabeth George. The Bronze Bow; The Witch of Blackbird Pond.

Swarthout, Glendon. Bless the Beasts and Children.

Switzer, Ellen. How Democracy Failed.

Thompson, Jean. House of Tomorrow.

Voigt, Cynthia. Dicey's Song.

Wersba, Barbara. Tunes for a Small Harmonica.

West, Jessamyn. The Massacre at Fall Creek.

White, Robb. Deathwatch.

Wilkinson, Brenda. Ladell and Willie.

Willard, Nancy. A Visit to William Blake's Inn: Poems for Innocent and Experienced Travelers.

Wojciechowska, Maia. Shadow of a Bull.

Zindel, Paul. The Pigman.

Etc.

IV. LITERATURE FOR RECREATIONAL READING

B. Samples of Other Titles Which Are Included in Book Selection Guides

1. Books

American Library Association. Outstanding Fiction for the College Bound.

American Library Association. Outstanding Non-Fiction for the College Bound.

American Library Association. Outstanding Biographies for the College Bound.

Carlsen, G. Robert. Books and the Teen Age Reader.

Center for Sex Equity, Northwest Regional Educational Laboratory. Building Instruction Around Sex-Equity: Bibliography of Non-Sexist Supp. Books (K-12)

Fader, Daniel N., and McNeil, Elton B. Hooked on Books: Program and Proof.

National Council of Teachers of English. Books for You: A Booklist for Senior High Students.

National Council of Teachers of English. Your Reading: A Booklist for Junior High and Middle School Students.

Neal Schuman Publishers, Inc. Latino Materials: A Multimedia Guide for Children and Young Adults.

2. Periodicals

American Library Association. Booklist.

Council on Interracial Books for Children. Interracial Books for Children Bulletin.

National Council of Teachers of English. English Journal.

National Council of Teachers of English. Language Arts.

Acosta, Oscar Zeta. The Autobiography of a Brown Buffalo.

Adoff, Arnold (ed.). Celebrations: A New Anthology of Black American Poetry.

Albert, Marvin H. The Dark Goddess.

Alford, Terry. Prince Among Slaves.

Anaya, Rudolfo. Heart of Aztlan.

Arnold, Elliott. Broken Arrow.

Arnow, Harriet. The Dollmaker.

Arrick, Fran. Chernowitz!

Asimov, I. The Currents of Space.

Asimov, Isaac et al. (eds.). Young Mutants.

Baker, Ivon. Death and Variations.

Barch, Robert. The Whitman Kick.

Barrio, Raymond. The Plum Plum Pickers.

Beatty, Patricia. Eight Mules from Monterey.

Bishop, J. The Day Lincoln Was Shot.

Boylston, Helen Dore. Clara Barton: Founder of the American Red Cross.

Brent, Madeleine. Merlin's Keep.

Brown, Roy. The Cage: A Novel.

Butterworth, W. E. Flunking Out.

Caines, Jeanette. Just Us Women.

Carson, R. Under the Sea Wind.

Childress, Alice. A Hero Ain't Nothin' But a Sandwich; Rainbow Jordan.

Chiles, Webb. Storm Passage: Alone Around Cape Horn.

Clavell, James. The Children's Story.

Cooper, Susan. Seaward.

Cowles, Virginia. The Last Tsar.

Davis, E. Adams. Of the Night Winds Telling: Legends from the Valley of Mexico.

Davison, Jean. The Golden Torrent.

Degens, T. The Visit.

Dickson, Gordon. Time Storm.

Dumas, Alexandre. The Three Musketeers.

Fleischman, Paul. Path of the Pale Horse.

Fowler, Robert. Jim Mundy: A Novel of the American Civil War.

Francis, Clare. Women Alone: Sailing Solo Across the Atlantic.

George, Jean Craighead. The Talking Earth.

Gilbreth, F., and Carey, E. Cheaper by the Dozen.

Golden, Stephen. Assault on the Gods.

Gray, Mary Ann. The Truth about Fathers.

Greenfield, Eloise. Talk About a Family.

Guerson, John. I Remember Lindbergh.

Hamilton, Virginia. Sweet Whispers, Brother Rush; The Magical Adventures of Pretty Pearl.

Hammett, D. The Maltese Falcon.

Hansberry, L. The Sign in Sidney Brustein's Window.

Hansen, Joyce. Homeboy.

Haswell, Jack. Spies and Spymasters: A Concise History of Intelligence.

Haugaard, Erik Christian. Leif the Unlucky.

Hersey, J. Hiroshima.

Heyerdahl, T. Aku-Aku.

Hoobler, Dorothy, and Hoobler, Thomas. Photographing History: The Career of Mathew Brady.

Hopkins, Lee Bennet (ed.). Rainbows Are Made: Poems by Carl Sandburg.

Horowitz, Anthony. The Devil's Doorbell.

Houston, James A. Frozen Fire: A Tale of Courage.

Howarth, David. 1066: The Year of the Conquest.

Janeczko, Paul B. (ed.). Poetspeak: In Their Work, about Their Work.

Jenkins, Peter and Barbara. The Walk West--A Walk Across America 2.

Kennedy, J. Profiles in Courage.

Kipling, R. The Jungle Book; Kim.

Kjelgaard, J. Big Red.

Konigsburg, E. L. Journey to an 800 Number.

LeCarre, J. The Spy Who Came in From the Cold.

Lester, Julius. This Strange New Feeling.

Levy, Jacques E. Cesar Chavez: Autobiography of La Causa.

London, J. Sea Wolf; The Call of the Wild.

Lord, W. A Night to Remember.

Lyle, Katie Letcher. Dark but Full of Diamonds.

Mace, Elisabeth. Out There.

Mathis, Sharon Bell. Teacup Full of Roses.

Matthiessen, Peter. Sal Si Puedes: Escape if You Can. Cesar Chavez and the New American Revolution.

Mazer, Harry. I Love You, Stupid!

Michener, J. Tales of the South Pacific; The Bridge at Andau.

Miklowitz, Gloria D. Close to the Edge.

Mohr, Nicholasa. El Bronx Remembered: A Novella and Stories; In Nueva York; Nilda.

Monsarrat, N. The Cruel Sea.

Montagu, E. The Man Who Never Was.

Moore, Emily. Just My Luck.

Myers, Walter Dean. It Ain't All for Nothin'; The Young Landlords; Won't Know Till I Get There.

Orczy, Baroness. The Scarlet Pimpernel.

Orlev, Uri. The Island on Bird Street.

Paige, Harry W. The Summer War.

Peck, Richard. Close Enough to Touch.

Pevsner, Stella. I'll Always Remember You . . . Maybe.

Plaidy, Jean. *The Haunted Sisters*.

Poggie, John J., Jr. *Between Two Cultures: The Life of an American Mexican*.

Rhue, Morton. *The Wave*.

Rice, Edward. *Margaret Mead*.

Robinson, Barbara. *Temporary Times, Temporary Places*.

Salisbury, Carola. *The Winter Bride*.

Schaefer, Jack. *Shane*.

Sebestyen, Ouida. *IOU's*.

Shute, Nevil. *On the Beach*.

Sillitoe, A. *The Loneliness of the Long Distance Runner*.

Skurzynsky, Gloria. *The Tempering*.

Steinbeck, John. *Tortilla Flat*; *Travels with Charley*.

Stevenson, Robert Louis. *Kidnapped*; *Treasure Island*.

Stone, Irving. *The Agony and the Ecstasy*.

Sutcliff, Rosemary. *The Road to Camlann: The Death of King Arthur*.

Talbot, Charlene Joy. *The Sodbuster Venture*.

Taylor, Theodore. *Maldonado Miracle*.

Terris, Susan. *Wings and Roots*.

Thomas, Joyce Carol. *Marked by Fire*.

Thompson, Julian F. *The Grounding of Group 6*.

Twain, Mark. *Connecticut Yankee in King Arthur's Court*; *The Prince and the Pauper*.

Uris, L. *Exodus*.

Vivian, E. *Robin Hood*.

Wallace, L. *Ben Hur*.

Washington, B. *Up From Slavery*.

West, Jessamyn. *Cress Delahanty*.

Wister, O. *The Virginian*.

Wyeth, N. C. (ed.). Great Stories of the Sea and Ships.

Wylie, P., and Balmer, E. When Worlds Collide.

Yolen, Jane. Children of the Wolf.

Etc.

IV. LITERATURE FOR RECREATIONAL READING

C. Recommendations from Educators in the Field

Adamson, J. *Born Free*.

Aldrich, Bess Streeter. *A Lantern in Her Hand*.

Annixter, Paul. *Swiftwater*.

Boorstin, Daniel. *The Discoverers*.

Bridges, Sue Ellen. *All Together Now*.

Brown, Dee. *Bury My Heart at Wounded Knee*.

Butterworth, W. E. *LeRoy and the Old Man*.

Canfield, D. *The Bent Twig*.

Cormier, Robert. *After the First Death*.

Crichton, Michael. *The Andromeda Strain*.

Dana, R. *Two Years Before the Mast*.

Demetz, Hana. *The House on Prague St*.

Dickens, Charles. *A Christmas Carol*.

Dreiser, Theodore. *Sister Carrie*.

Drury, Allen. *Advise and Consent*.

Forster, E. M. *Passage to India*.

French, Michael. *The Throwing Season*.

Gamow, G. *A Planet Called Earth*.

Glasgow, Ellen. *Barren Ground*.

Green, Hannah. *I Never Promised You a Rose Garden*.

Guareschi, Giovanni. *The Little World of Don Camillo*.

Hart, Moss. *Act One*.

Hemingway, Ernest. "In Our Time".

Herbert, Frank. Dune Trilogy.

Hesse, Herman. Siddartha.

Holman, Felice. The Murderer.

Hudson, William H. Green Mansions.

Irving, John. Hotel New Hampshire.

Jackson, Shirley. The Haunting of Hill House.

Jacobs, W. W. "The Monkey's Paw."

Johnson, Dorothy. Buffalo Woman.

Kata, Elizabeth. A Patch of Blue.

Knowles, John. Peace Breaks Out.

Krensky, Stephen. Conqueror and Hero, the Search for Alexander.

Lindbergh, Anne. Dearly Beloved.

London, Jack. Martin Eden.

Malamud, Bernard. The Assistant.

Mann, Gertrude. Journey of Conscience.

McCarthy, Mary. The Group.

McCullers, Carson. Ballad of the Sad Cafe; The Heart Is a Lonely Hunter.

McCullough, Colleen. Thorn Birds.

McNeish, James. Belonging.

Mishima, Yukio. Sound of the Waves.

Nabokov, Vladimir. Pale Fire.

Norris, Frank. Octopus.

Plath, Sylvia. The Bell Jar.

Porter, Katherine Anne. Ship of Fools.

Potok, Chaim. The Chosen.

Rabinsky, Leatrice. Journey of Conscience.

Rawls, Wilson. Where the Red Fern Grows.

Scott, Walter (Sir). Ivannoe.

Sebestyen, Ouida. Words by Heart.

Sinclair, Upton. The Jungle.

Southerland, Ellease. Let the Lion Eat Straw.

Sparks, Muriel. The Prime of Miss Jean Brodie.

Suhl, Yuri. On the Other Side of the Gate.

Sutcliffe, Rosemary. Knight's Fee.

Townsend, J. R. The Creatures.

Twain, Mark. Mysterious Stranger.

Valens, E. G. The Other Side of the Mountain.

Verne, Jules. Around the World in Eighty Days.

Villareal, Jose. Pocho.

West, Jessamyn. Friendly Persuasion.

White, T. H. The Once and Future King.

Wouk, Herman. The Caine Mutiny; The Caine Mutiny Court Martial.

Etc.

V. ANTHOLOGIES OF SHORTER WORKS SUCH AS POEMS, ESSAYS, SHORT STORIES, SHORT PLAYS, AND SPEECHES

Poetry

Adoff, Arnold. Black Out Loud.

Adoff, Arnold (ed.). Celebrations: A New Anthology of Black American Poetry.

Allen, Terry. The Whispering Wind.

Belting, Natalia. Our Fathers Had Powerful Songs.

Bruchac, Joseph (ed.). The Next World: Poems by 32 Third World Americans.

Dunning, Stephen et al. (eds.). Reflections on a Gift of Watermelon Pickle and Other Modern Verse; Some Haystacks Don't Even Have Any Needles.

Frost, Robert. Poems.

Janeczko, Paul B. Poetspeak: In Their Words, About Their Work.

Larrick, Nancy (ed.). Bring Me All of Your Dreams.

Leuders, Edwin, and St. John, Primus (eds.). Zero Makes Me Hungry: A Collection of Poems for Today.

Longfellow, Henry Wadsworth. Poems.

Pavegoosko. I Breathe a New Song: Poems of the Eskimo.

Paz, Octavio (ed.). Anthology of Mexican Poetry.

Randall, Dudley. The Black Poets.

Roethke, Theodore. Words for the Wind.

Summerfield, Geoffrey (ed.). Man in the Poetic Mode, Books 1-6; Voices, Books 1-6.

Untermeyer, L. Concise Treasury of Great Poems; Modern American Poetry and Modern British Poetry.

Whitman, Walt. Leaves of Grass.

Williams, Oscar. A Pocket Book of Modern Verse.

Etc.

Essays

Berger, John. Ways of Seeing.

Bok, Sissela. Lying: Moral Choice in Public and Private Life.

Didion, Joan. The White Album.

Emerson, Ralph Waldo. Essays.

Federalist Papers.

Holmes, Oliver Wendell. Writings.

Paine, Thomas. Common Sense.

Steinberg, Janet (ed.). The Writer on Her Work.

Summerfield, Geoffrey (ed.). Man in the Expository Mode, Books 1-6.

Thoreau, Henry. Walden.

Vidal, Gore. Matters of Fact and Fiction.

Williams, Tennessee. Where I Live: Selected Essays.

Etc.

Short Fiction

Akutagawa, Ryanosake. Rashomon and Other Stories.

Angus, Douglas (ed.). The Best Short Stories of the Modern Age.

Bradbury, Ray. Golden Apples of the Sun; The October Country; The Stories of Ray Bradbury.

Cheever, John. The Stories of John Cheever.

Chute, Marchette. Stories from Shakespeare.

Conklin, G. Thirteen Great Classics of Science Fiction.

Cormier, Robert. 8 plus 1.

Crane, Milton. Fifty Great American Short Stories.

Erdos, Richard. Sound of the Flutes and Other Indian Legends.

Feldman, Susan (ed.). African Myths and Tales.

Goodman, Roger B. (ed.). 75 Short Masterpieces: Stories from the World's Literature.

Harte, Brete. Outcasts of Poker Flat and Other Tales.

Hemingway, Ernest. The Nick Adams Stories.

Henry, O. Short Stories.

Hunter, Kristin. Guests in a Promised Land.

Johnson, Dorothy M. A Man Called Horse.

Malamud, Bernard. The Magic Barrel.

McCullers, Carson. The Ballad of the Sad Cafe and Other Stories.

Mohr, Nicholasa. In Nueva York.

Oates, Joyce Carol. Where Are You Going, Where Have You Been?

Poe, Edgar Allen. Short Stories.

Powers. Prince of Darkness and Other Stories.

Salinger, J. D. Nine Stories.

Summerfield, Geoffrey (ed.). Man in the Fictional Mode, Books 1-6.

Twenty Grand: Great American Short Stories.

Thomas, Piri. Stories from El Barrio.

Etc.

Short Plays

France, Rachel (ed.). A Century of Plays by American Women.

Hadas, Moses (ed.). Greek Drama.

Heston, Lilla (ed.). Man in the Dramatic Mode, Books 1-6.

Etc.

Speeches

Aly, Bower, and Aly, Lucile F. (Editors). American Short Speeches.

Arnold, Ehninger, and Gerber. The Speaker's Resource Book.

Grisso, Walker Dixon. From Where the Sun Now Stands; Addresses by a Posse of Famous Western Speakers.

Peterson, Houston. A Treasury of the World in Great Speeches.

Etc.

VI. BOOK SELECTION GUIDES

1. The ALAN Review. Assembly on Literature for Adolescents, National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801.
2. Black Literature for High School Students. Eds. Barbara Dodds Stanford and Karima Amin. 1978. National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801.
3. Book Bait: Detailed Notes on Adult Books Popular with Young People. Ed. Elinor Walker. 3rd ed., 1979. American Library Association, 50 E. Huron St., Chicago, IL 60611.
4. Booklist. The American Library Association, 50 E. Huron St., Chicago, IL 60601.
5. Books for the Teen Age Reader 1979. Ed. Marian E. White, New York Public Library, Fifth Ave. and 42nd St., Rm. 58, New York, NY 10018.
6. Books and the Teen Age Reader by G. Robert Carlsen. National Book Committee. Bantam Books.
7. Books for You: A Booklist for Senior High Students. Ed. Kenneth L. Donelson. Rev. ed., 1976. National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801.
8. Bulletin of the Center for Children's Books. Ed. Zena Sutherland. The University of Chicago Graduate Library School, University of Chicago Press, 5801 Ellis Ave., Chicago, IL 60637.
9. The English Journal. National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801.
10. High Interest-Easy Reading for Junior and Senior High School Students. Ed. Marian E. White, 3rd ed., 1979. National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801.
11. The Horn Book Magazine. The Horn Book, Inc., Park Square Building, 31 St. James Ave., Boston, MA 92116.
12. Interracial Books for Children Bulletin. Council on Interracial Books for Children, 1841 Broadway, New York, NY 10023.
13. Journal of Reading. International Reading Association, 6 Tyre Ave., Newark, DE 19711.
14. Junior High School Library Catalog. Ed. Ilene R. Schechter and Gary L. Bogert. 3rd ed., 1975. H. W. Wilson Company, 950 University Ave., Bronx, NY 10452.

15. *Latino Materials: A Multimedia Guide for Children and Young Adults*, Neal Schuman Publishers Incorporated, 23 Cornelia St., New York, NY 10014.

16. *Media and Methods*. North American Publishing Co., 401 N. American Building, 491 N. Broad St., Philadelphia, PA 19108.

17. *The New York Times Book Review*. New York Times Co., Times Square, New York, NY 10036.

18. *Reading Ladders for Human Relations*. Ed. Eileen Tway. 6th ed., 1981. American Council on Education and National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801.

19. *School Library Journal*. R. R. Bowker Company, 1180 Avenue of the Americas, New York, NY 10036.

20. *Senior High School Library Catalog*. Ed. Gary L. Bogart and Karen R. Carlson. 11th ed., 1977. H. W. Wilson Company, 950 University Ave., Bronx, NY 10452.

21. *Top of the News*. Joint publication of the Association for Library Service to Children and the Young Adult Services Division of the American Library Association, 50 E. Huron St., Chicago, IL 60611.

22. *Wilson Library Bulletin*. H. W. Wilson Co., 1950 University Ave., Bronx, NY 19452.

23. *Your Reading: A Booklist for Junior High and Middle School Students*. Ed. Jerry Walker. 1975. National Council of Teachers of English, 1111 Kenyon Rd., Urbana, IL 61801.

Model Curriculum Standards

Grades Nine Through Twelve

First Edition

Foreign Language

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PREFACE

In 1983, the California Legislature enacted Senate Bill 813 (Chapter 498, Statutes of 1983), a far-reaching reform measure designed to improve financing, curriculum, textbooks, testing, and teacher and administrator training in the state's elementary and secondary schools. One of the central themes of SB 813 is the reestablishment of high expectations for the content that would be taught in secondary schools and for the level of effort and performance by students.

Consistent with this theme, SB 813 reinstituted statewide high school graduation requirements. Before receiving a diploma, every student must complete at least the following courses:

- English--three years
- History-Social Science--three years
- Mathematics--two years
- Science--two years
- Foreign Language; Visual and Performing Arts--one year of either
- Physical Education--two years

To assist school districts in upgrading of course content, SB 813 also requires the Superintendent of Public Instruction to develop and the State Board of Education to adopt model curriculum standards for the newly mandated high school course of study. School districts are required to compare their local curriculum to the model standards at least once every three years. The full text of the Education Code Section 51226, which requires the model curriculum standards, is as follows:

> 51226. (a) The Superintendent of Public Instruction shall coordinate the development, on a cyclical basis, of model curriculum standards for the course of study required by Section 51225.3. The superintendent shall set forth these standards in terms of a wide range of specific competencies, including higher level skills, in each academic subject area. The superintendent shall review currently available textbooks in conjunction with the curriculum standards. The superintendent shall seek the advice of classroom teachers, school administrators, parents, postsecondary educators, and representatives of business and industry in developing these curriculum standards. The superintendent shall recommend policies to the State Board of Education for consideration and adoption by the board. The State Board of Education shall adopt these policies no later than January 1, 1985. However, neither the superintendent nor the board shall adopt rules or regulations for course content or methods of instruction.
>
> (b) Not less than every three years, the governing board of each school district shall compare local curriculum course content, and course sequence with the standards adopted pursuant to subdivision (a).

Development of the model curriculum standards began in early 1984 when the Superintendent of Public Instruction appointed broadly representative advisory committees in six of the mandated subject areas. (Physical education standards will be developed in early 1985.) The committees worked for more than six months, frequently consulting nationally recognized experts, to produce draft standards. The draft standards were then reviewed and critiqued by teachers and administrators from more than 80 school districts throughout the state. The results of this extensive field review were used to make final refinements to the standards.

In recognition that this is California's first effort to prepare model curriculum standards, the standards are being published in a first edition to allow for revisions, where appropriate, as they are further reviewed and used by school district personnel over the next nine months. A second edition is expected to be published in early 1986.

As specified in SB 813, the standards are a model, not a mandate. They reflect the strongest possible professional consensus about the content that every student should be exposed to before graduating from high school. Some school districts will find that their programs are already consistent with the standards; others will set them as a goal to strive towards. Whatever the results of each district's curriculum review, the Superintendent of Public Instruction and the State Board of Education hope that the standards will be of help as teachers, administrators, members of school district governing boards, and others concerned with the schools work to build a stronger, richer curriculum for all our students.

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*Member of the writing subcommittee.

INTRODUCTION

The ultimate goal of foreign language learning in California public secondary schools is to develop Californians with "international competence." These are individuals who:

- Communicate accurately and appropriately with representatives of other languages and cultures.
- Understand themselves as individuals shaped by a particular language and culture.
- Function appropriately in at least one other culture and are sensitive to cultural differences in general.

Achievement of this goal requires that students participate in an articulated foreign language sequence, kindergarten through grade twelve. Students can use the skills gained from such a sequence for realizing more fully their own human potential, for enhancing their career potential, and for helping the citizens of the United States to deal more effectively with people from other nations.

Foreign language programs should focus on specific objectives designed to meet the ultimate goal of developing "international competence." Such objectives are expressed in the State Board of Education's Raising Expectations: Model Graduation Requirements; and the State Department of Education's Foreign Language Framework for California Public Schools; and Handbook for Planning an Effective Foreign Language Program. These program objectives are to:

- Develop the receptive language skills of listening and reading.
- Develop the productive language skills of speaking and writing.
- Emphasize communication in the foreign language as both the main objective and the continuing enabling activity of classroom learning.
- Employ proficiency standards for assessing the major accomplishments of students and programs.
- Provide students with insight into the structure, history, and vocabulary of their own language.
- Change students' unconscious, language-filtered view of themselves, other people, and the world into a more objective view through comparing and understanding languages and cultures.

Since the function of language is to facilitate communication among human beings, excellence in a foreign language program is determined by how well students can actually use the language and cultural skills in all their modes for communicative purposes. Students should experience the function of language from the beginning of their foreign language exposure. Language tasks in the classroom should consist of meaningful interchange in the foreign language. This meaningful interchange should include several basic features:

- There is an obvious purpose in communicating.
- There is some personal significance to the content.
- There is some resolution of uncertainties as a result of communicating.
- There are cultural features of the language and society.
- There is also an aspect of spontaneity and unpredictability to the sequence and the outcome if the communication is conversational in nature.

Throughout the earlier stages of such a program, receptive skills precede productive skills, often in an alternating pattern. All instruction emphasizes cultural awareness, knowledge, and sensitivity.

A detailed curriculum for such a program would list, in priority ranking, the basic language functions, content and vocabulary, forms, and subskills to be learned. The priority listing can be based on immediacy of need, adaptability of the language functions to many situations, student interest, natural order of language acquisition, etc. The list would then be divided into subgroups corresponding to each course or unit in a foreign language sequence. Designated for each course would be the listening, speaking, reading, writing, and cultural skills and activities to be included. Also designated would be the performance objectives or outcomes expected and the degree of accuracy expected for each activity. The functions and vocabulary selected for learning units or courses might be designed to create special purpose outcomes, such as foreign language competency for business, commerce, school attendance, health services, traveling, or living abroad.

Students entering the program with previous foreign language experience, either in school or elsewhere, should be tested to determine where along the continuum they could most profitably enter and continue.

Ideally, students entering such a program in secondary school would have had six to eight years of foreign language learning, and instruction could proceed at a more advanced level, with a focus on educational content and human issues rather than on language proficiency. Since such preparation is not yet generally the case, these model curriculum standards focus on skills attainable in courses beginning at the secondary level. The standards are, however, applicable at any age level, although classroom activities employed in reaching the standards would usually differ for different age groups.

ORGANIZATION OF THE STANDARDS

The model standards for foreign language are divided into the following areas:

- Receptive Skills: Listening and Reading
- Productive Skills: Speaking and Writing
- Culture

Each area is further divided into four component categories:

1. Language functions: the use or purpose served by particular language expressions (requesting, complimenting, commanding, comparing, promising, advising, agreeing, describing, etc.)

2. Language content: the vocabulary knowledge essential for the specific application of the chosen functions (requesting items of food or clothing, socializing with greetings, describing facial features, reporting actions, sharing feelings, etc.)

3. Language forms: the grammar competencies necessary for carrying out the functions to be learned

4. Language subskills: additional competencies necessary for receiving or sending effective messages in the language (significance of gestures, voice tone, pauses, facial expressions, "vocal underlining," minimal phoneme differences, body language, etc.)

The general standards in this model curriculum guide are valid for all levels of foreign language instruction, including special purpose courses, since the standards indicate what learners should be able to do with the skills they acquire. The standards, however, do not limit the number nor complexity of the skills; neither do the standards limit the kinds of topics or vocabulary included.

The content and range indications, given in part B of each set of standards, apply mainly to Western European languages. For most other languages, such as the Slavic, the Asian, or the Semitic, it generally takes English speakers about twice as long to reach comparable levels of proficiency. Note that the content and range specifications for listening, reading, speaking, and writing for each year are presented in two paragraphs. The paragraph on the left side represents student performance in a nonrestricted language setting in the target culture; the paragraph on the right side represents student performance in the restricted language setting of the classroom. In other words, the first paragraph tells how well a student could perform tasks in a language environment not geared to the content of any specific course. The second paragraph tells how well a student could perform in a language environment based largely on material presented in the course.

The examples of enabling activities for each standard are drawn mainly from beginning levels, since this is where the majority of students will be in the immediate future. However, the last activity in each group is an example from an advanced level and illustrates the flexibility of each standard. The examples, of course, are merely illustrative and are not meant to be a necessary part of any course.

Each of the first four activity examples in each of the five skill areas represents, in sequence, the four component categories described above.

STANDARDS FOR RECEPTIVE SKILLS

Listening Standards

Listening comprehension is the foundation skill on which the other language skills are built. Students are unlikely to produce messages with any degree of spontaneity or flexibility until they have assimilated the necessary forms and vocabulary through extensive listening and comprehension activities. Students are unlikely to receive written messages and react to the language as a native speaker might if the students have never heard similar language first.

A. General Standards/Skills

Students are able to demonstrate comprehension of:

1. Oral messages selected as typifying the language functions chosen for the course
2. Vocabulary essential to the communicative situations or topics specified for the course
3. Differences in meaning conveyed by differences in grammatical structures in the types of messages chosen for the course
4. Communicative signals such as gestures, pauses, intonation, facial expressions, body language, etc., which have been designated as essential for the course

B. Specific Level/Range/Content

First Year

When exposed to the entire range of language as it might occur in the target culture, students can recognize most words and phrases they have learned. Even in unfamiliar contexts they will comprehend words here and there, if spoken slowly and distinctly. Students at this stage typically confuse similar sounding words and tend to ask for repetition or a slower pace. They are unlikely to encounter entire language sequences of any great length which they can comprehend, since they have not yet had time to acquire sufficient vocabulary and forms.

If the language interchange is restricted to material students have practiced and learned, they can comprehend the language quite well. Such language typically includes, but is not limited to, basic objects, colors, clothing, family members, time, days of the week, months, dates, weather, numbers, greetings, frequent adjectives and verbs, and classroom expressions. Students should be able to comprehend a vocabulary of at least 1,000 words in context.

Second Year

After two years, the students comprehend most words and phrases dealing with immediate needs and dealing with common, everyday situations in a home or while traveling. Students comprehend simple questions and statements about family, residence, self, weather, time, and interests. Lack of perception of differences in sounds and endings can cause misunderstanding. Long or complex expressions are often not understood, except for the familiar words and phrases when they occur.

With restricted material, the students understand readily whatever was part of the course. The content commonly includes, among other topics, vocabulary and functions concerning meals, lodging, transportation, and time; normal commands; frequent instructions; and courtesy interchanges. Students recognize differences in the present, past, and future tenses and respond to other frequently encountered grammatical signals. Students can understand stories and other longer language sequences when the vocabulary and structures are mainly familiar. A listening comprehension vocabulary of at least 1,700 words in context can be expected.

Third Year

When encountering "unedited language," as in a target society setting, students can understand conversations relating to basic needs and basic social conventions. They can comprehend some topics beyond basic needs. They also understand the past, present, and future tenses and word order, unless patterns get quite complex. Long descriptions or detailed accounts are often not understood. The students are beginning to become reliable in comprehending pronoun forms and verb and noun/adjective agreement.

Students can now understand much authentic material which uses vocabulary and forms studied and practiced in class. They can comprehend movie dialogues, recorded stories and dramas studied in class, and fairly complex directions and explanations by the teacher. They can comprehend information about some sophisticated topics and readings which they have studied in class. Receptive vocabulary should have reached at least 2,000 words. Control of grammar should include the most frequent verb forms for operating in the past, present, and future; basic pronoun forms; prepositions; frequent adjective forms; genders; possessives; etc.

Fourth Year

In native-speaker encounters of an unrestricted nature, students are able to engage in conversation and comprehend the other party without much repetition or rewording. Topics go well beyond basic needs and include personal and family affairs, some current events, school, work, etc. Students can comprehend descriptions and narration referring to past, present, or future events. They can also comprehend talk about special fields of interest. They can understand most of the language used in movies or broadcasts of a nontechnical or very specialized nature.

When students are listening to material restricted mainly to vocabulary and structures studied in class, their comprehension appears to be on a near native-like level. Many students comprehend in-depth material about special interest topics with which they have worked. Vocabulary comprehended should be at least 2,500 words. Grammar control should include all but the infrequently used and the most complex forms and word order problems (varies by language).

For fifth and sixth years, see the Appendix.

C. Examples of Enabling Activities

- Teachers give all routine classroom instructions and directions in the foreign language: taking roll, sending students to the office or to counselors, asking for absence slips, directing students to get and to put away learning materials, etc.

- For comprehending certain types of instructions and commands, students watch and listen to (or perhaps participate in) a cooking demonstration in which a popular target culture dish is prepared. The instructor can do the demonstration or can direct an assistant (or all students): "Take . . . , measure . . . , add . . . , cut . . . , put . . . , fold . . . , turn . . . , test . . . ," etc. As a reinforcement activity students listen and respond while a coach commands certain actions: "put . . . , turn . . . , run . . . , jump . . . ."

- The teacher provides a listening activity featuring ways of making requests. Students listen, via recording (perhaps accompanied by appropriate reinforcing visuals), to two teenagers going through a catalogue. The teacher concentrates on two of the possible common ways of requesting. In English, for example, one could select from such expressions as: "I want _____," "I have to have ______," "I need a _____," "Let me see/have that," "Give me _____," "I'll buy one," "I'd like two of those!" The teacher frequently checks for understanding. A reinforcement tape is played, featuring two people at a bargain sale.

- Getting medical treatment is chosen as one of the important situations for the school's foreign language course. Students listen to or watch a film, videotape, slide show, or tape-recorded or teacher-presented dialogue in a hospital outpatient clinic. This is then reinforced by two students preparing and presenting a humorous skit of "a visit to a doctor's office." The performers might include instructions to which the entire class could respond physically.

- Students listen to a monologue, dialogue, or story containing words they often confuse because the words are distinguished from others by a slight sound difference. As the teacher evaluates student feedback, the troublesome words might be modeled as contrasting pairs and/or listed on the chalkboard.

- Advanced students listen to a biology lecture in the target language which focuses on the function of classifying and on establishing criteria for comparing and contrasting. Students discuss the language uses or purposes following the lecture. They do this in the foreign language. The teacher may ask leading questions and provide any necessary explanations or elaborations.

Any media or printed materials used in classroom activities should be from the target culture wherever possible.

Reading Standards

Communication is more than just conversation. A large amount of information is communicated in written form. The use of computers has increased the proportion of written communication for many. The following standards are written with the assumption that the teacher is aware of, and is giving instruction in, the reading subskills (character recognition, punctuation, sound-symbol correspondence, syntactic skills, etc.). It is also assumed that the development of reading skills during the early levels of instruction is being built on a foundation of aural/oral skills. To the degree possible, written material used in instruction should come from the target culture.

A. General Standards/Skills

Students are able to demonstrate understanding of:

1. Written messages which represent the language functions chosen for the course

2. Vocabulary essential to the various communicative settings and topics included in the course

3. Differences in meaning conveyed by differences in selected structures in the written messages of the course

4. Graphic signals/cues used in the written materials of the course

B. Specific Level/Range/Content

First Year

When encountering language materials which are not restricted to any particular course content, students should be able to recognize all the letters in the alphabet and high-frequency elements in a syllabary or a character system. They should be able to understand standard written messages in situations of basic needs, such as informational signs. They can understand common items on menus, timetables, traffic signs, and calendars.

Where the language is restricted mainly to the structures and vocabulary practiced in the classroom, students can read sentences, connected passages, and simple stories for meaning. They can read printed versions of any oral material learned. The language functions and vocabulary they can read and comprehend will parallel those found in the listening skills section, although students should be able to recognize more vocabulary items--more than the 1,000 or more they can comprehend by listening.

Second Year

Given printed material of an unrestricted nature, students can comprehend much connected writing of a simple nature, especially if it deals with basic situations. They can understand recombinations of material they have learned in practice. Where structure and syntax are similar to the students' own language, students can understand the main ideas of much material. They can also read most notes, greetings, etc. Miscues are frequent when syntax and grammatical structures are complex or vary significantly from the students' native language.

Given printed material restricted to structures and content practiced previously, students' reading ability is extensive. Students can read prepared or edited stories, essays, etc. They can often read carefully selected authentic documents for meaning and for specific information. Their reading vocabulary should surpass 1,700 words.

Third Year

When presented a cross section of reading matter as it might occur in the target culture, students can comprehend popular advertising, most newspaper headlines, etc. They

With the help of a dictionary, the teacher, and footnotes, the reading material that can be comprehended in the third- and fourth-year courses becomes very extensive. When presented this should be able to guess at many words in context. Straightforward paragraphs dealing with personal information, recreation, common activities, and so forth are comprehended. Notes, letters, and invitations can be understood. Students can get the main meaning and often many details of news stories in popular periodicals. They can read many popular stories and comprehend what is going on. Students' reading vocabulary should be at least 2,000 words.

material, or quite similar material, later, the student can usually still demonstrate comprehension. It is probably pedagogically unsound to have students master reading material that is far in advance of the vocabulary and structures with which they are familiar and which they can handle orally and aurally.

Fourth Year

Students can now read a great deal of the material they encounter in the target society. They can read much authentic prose of a serious but uncomplicated nature. Business letters, biographic information, and news reports can be understood. Students can follow the main ideas in many essays and comprehend major supporting ideas, especially if the topic is one of personal interest. The reading vocabulary should be at least 2,500 words, with many more words deduced from the context and others recognized because they have cognates in English.

With the help of a dictionary, the teacher, and footnotes, the reading material that can be comprehended in the third- and fourth-year courses becomes very extensive. When presented this material, or quite similar material, later, the student can usually still demonstrate comprehension. It is probably pedagogically unsound to have students master reading material that is far in advance of the vocabulary and structures with which they are familiar and which they can handle orally and aurally.

For fifth and sixth years, see the Appendix.

C. Examples of Enabling Activities

- A series of actions is written on the chalkboard or distributed as a handout. Each action is numbered and is written in command form. One student is selected as the performer. As the teacher calls out each number, the student reads and performs the action. Classmates also read and then register their agreement or disagreement with the student's performance, using prearranged oral or physical responses. Reinforcement tasks can include reading typical warning signs (Drive slowly! Stop here! Don't smoke! Enter here! etc.), instructions on labels, and/or directions in recipes or for assembly if such instructions are given in a command form in the target language.

- A trip through the country in which the people speak the target language is described in a handout. A map accompanies the handout. Each student marks the route taken. The student also writes (copies) one or two adjectives used in the trip description alongside any towns, geographical features, or stretches of countryside so described. Students keep the maps for a possible future trip reference.

- Students are given pairs of short written messages. The messages in each pair differ in meaning, and the difference in meaning is communicated by a structural (grammatical) difference. The students' task is to comprehend each message. (The difference might be when, conveyed by tense; who, conveyed by verb form; whom, or to whom, conveyed by pronoun form, etc.) Students can demonstrate their comprehension by briefly answering or marking appropriately constructed questions.

- Students are given a long list of words, at least half of which are items in one category, such as one might find on a target culture's laundry, grocery, or drugstore list or on any other kind of list. Many of the other words on the list outside the chosen category are similar to the selected shopping items, differing only slightly in spelling or diacritical marking or form. Students are directed to make up a shopping list by circling a specified number of items on the page. A comparison or checking of lists reveals some reading problems--and often reveals some interesting shopping items.

- Advanced students read several editorials from respected newspapers published in the country of the target language. Students discuss the content, the viewpoint, the underlying tone or attitude, and the language signals which reflect the tone. They also point out and discuss underlying cultural features, especially if they are unique to the target culture. They predict how a person unacquainted with the culture would misinterpret a straight translation of the article.

STANDARDS FOR PRODUCTIVE SKILLS

Speaking Standards

A skill is developed only through extensive practice of that skill in its typical contexts. The most common context for speaking a language is conversation. The speakers participate in the activity on a one-to-one basis. In a classroom, with many students and one teacher, such an activity is often perceived as difficult to direct, control, and evaluate. For this reason, development of speaking skills in a communicative context is often neglected, and practice quite commonly consists of individual or choral drills in one form or another. A student practicing conversation without a partner might be compared to a tennis player doing all of his or her training against a backboard. In both instances only certain predictable components of a complex activity are exercised. If the practice is to lead to real proficiency in either activity, it must involve as much as possible the spontaneity and unpredictability of free interchange between two or more people. Practicing certain components of a skill may have value, but in the main, real proficiency develops through extensive employment of the skill under realistic conditions. Providing and managing communication tasks for pairs and small groups of students are accomplished effectively and frequently by most teachers who decide to include such activities and who prepare their techniques and materials in advance.

A. General Standards/Skills

Students are able to produce:

1. Oral messages to effect the language purposes selected for the course
2. Vocabulary selected as essential to the language settings and topics chosen for the course
3. Oral messages whose differences in meaning are conveyed by differences in certain structures
4. Signals other than speech necessary for carrying out the communicative tasks of the course

B. Specific Level/Range/Content

First Year

In unrestricted conversational settings, students can give short responses when they encounter fairly simple questions. Their ability to initiate language is limited to well-learned material. Although the teacher can usually understand, natives not used to

In controlled language situations, students can produce simple questions, answers, and descriptions. They can make statements about things and actions within their vocabulary range. Language included in typical first-year courses: common dealing with nonnatives might have some difficulty understanding.

objects, numbers, colors, family, time, days, months, weather, clothing, use of basic grammar forms, and the vocabulary of special situations selected as part of the local course. Students' active vocabulary should consist of at least 500 words and phrases.

Second Year

In an unrestricted conversational situation, students can meet basic survival needs in the foreign language. They can engage in common courtesy exchanges and carry on simple conversations, even initiating many questions and statements. Errors are frequent due to lack of grammatical control and interference in structure and pronunciation from their own language.

In controlled situations using material practiced in the course, students can ask and answer many quite sophisticated questions. Expressions are increasing in length, and some creativity is beginning to show up. The past, present, and future tenses are used, as is the grammar necessary for expressing accurately the functions which are part of the course. Active vocabulary should consist of at least 800 words and typically includes words dealing with food, transportation, lodging, the courtesies, school, holidays, stores, entertainment, sports, medicine, post office, and countryside.

Third Year

In unrestricted language encounters, students can handle most survival and social situations. Spontaneity should begin to occur. There is still hesitation and searching for substitute words. Students are showing an ability to use the present, past, and future tenses, although errors are common. Question forms are fairly well under control. Word order is not a major problem, except in the more complex patterns. Students are beginning to be able to

When speaking tasks are limited to material practiced in the classroom, students can form complete sentences and can sustain some lengthy conversations. They can discuss topics beyond basic needs when the topics are part of the course content. They are often quite creative with well-learned material. Productive vocabulary should be at least 1,000 words, many of which extend into areas beyond survival needs.

describe and to give information. They can handle the more frequent pronoun and verb forms. Expressions during discourse still tend to be short. The sound system usually does not cause much trouble, except for certain difficult combinations.

Fourth Year

In unrestricted target-culture settings, students can comply with common social demands and handle some work requirements. They can discuss information about themselves and their family. They may still have difficulty if complications arise. Errors are now infrequent in the frequently used structures, but a thorough control of grammar is usually not yet evident. Pronunciation is under sufficient control, so that most native speakers have little difficulty understanding. Students can describe and narrate.

When language interchange involves structures and vocabulary practiced in the classroom, students can handle most tenses, gender, prepositions, verb forms, adjective endings, pronouns, and word order problems while speaking about familiar topics. The topics include almost all everyday situations, current events, job-related information, and subject matter encountered in reading assignments. Students use longer expressions and join sentences and clauses properly, except for the more complex structures which contrast greatly with the students' native language. Active vocabulary should now surpass 1,300 words.

For fifth and sixth years, see the Appendix.

C. Examples of Enabling Activities

- Students socialize in pairs. Each pair is given a card with a different picture or drawing or cartoon strip showing a particular type of weather; some indication of whether it is morning, afternoon, or night; a few people; and several objects (car, house, bus, street, etc.). Students are directed to carry on a conversation based on the picture. Each partner must participate in the interchange at least five times. Students are informed that the conversation should include at least greetings appropriate to the time of day, other courtesy remarks, comments about the weather, questions or comments about objects or persons, and leave-taking. Cards can be exchanged and the routine repeated.

- Students prepare and deliver a brief description of their home and family to the class or to other members of smaller groups. Classmates may ask questions.

- o One student of each pair watches the teacher perform a familiar, multi-faceted action, such as getting up, walking over to a bookshelf, taking out a book, opening it, reading a little, closing it, replacing it, turning around, etc. The students report each facet to the partner as it occurs. The partners then exchange roles and the teacher performs a different action. Variations are: (1) one of the partners then summarizes the entire sequence for the other in the appropriate past tense form; and (2) one partner commands the other to duplicate each facet of the sequence.

- o Students are required to use appropriate gestures and other actions (shaking hands, bowing, etc.) when greeting, being introduced, taking leave, and performing other acts of courtesy during communicative activities in the classroom.

- o Advanced students prepare and engage in a debate about the role of competitive sports in public schools. Included in the research and debate should be the situation in the schools of the target culture and the perspective on the problem from the students' cultural background and point of view.

Writing Standards

For most students of foreign languages, writing is the least used skill. In fact, natives, too, usually employ writing skills less often than any of the other language skills. Writing practice most commonly follows practice with oral and reading skills. Students can best formulate words and expressions in writing when they can already produce the material orally and when they have seen it sufficiently to recreate the graphics involved. For some languages with unfamiliar alphabets or character systems, extensive work with the graphic system may be necessary.

A. General Standards/Skills

Students are able to produce:

1. Written messages that exemplify the language functions chosen for the course

2. Written vocabulary, in lists and in context, which has been chosen as essential for the language situations and topics practiced in the course

3. Written messages whose specific meaning is generated by differences in certain structures chosen as necessary for the course

4. Punctuation, diacritics, and other graphic signals necessary for conveying accurately the expected written messages of the course

B. Specific Level/Range/Content

First Year

When responding to typical everyday language demands, students can fill out simple forms, write basic biographic information, write out lists of a limited nature, write the alphabet (or a limited number of characters in a character system), and write phrases or sentences if what is requested has been learned.

If the language demands are restricted to material practiced in class, students can write dictations, put almost all learned oral material into written form, and in general, write anything they can say (see oral skills section).

Students' working vocabulary consists of at least 500 words.

Second Year

In unrestricted language situations, students can now meet many everyday writing demands, such as writing questions, notes, phone messages, postcards, etc. They can take simple notes on familiar topics. They can put together phrases and sentences beyond those learned. Errors often occur, but natives used to dealing with foreigners can usually understand.

In restricted language situations, students can write letters, summarize messages, retell in writing simple stories, deal with other than the present tense, and fill out health, customs, and some job application forms. Students can write original dialogues and paragraphs, using well-learned structures and an active vocabulary of at least 800 words.

Third Year

Students should be able to handle many survival and social demands in writing. They should be able to take notes on familiar topics. They can write short paragraphs about themselves and their daily routine. They should show better control of grammar than they do in speaking, since they have more time to reflect before writing.

When dealing with course material, students can write long answers to questions, can write most material they produce orally, and can create dialogues and short stories. Errors are frequent if students try to be creative beyond their current level of competence in classroom practice with the language. Students can keep a journal or diary. Active writing vocabulary should be at least 1,000 words (which can be expanded with the use of a dictionary when writing).

Fourth Year

Students can write letters, summaries, and paraphrases. They can create their own sentences. They can write paragraphs and join them together to discuss personal history, likes, and dislikes. They can use the present, past, and future tenses without gross errors. Control of grammar parallels that practiced in class and is more sure than that exhibited orally. Native speakers are usually able to comprehend what the fourth-year student writes, even if the native speakers are not used to dealing with nonnatives.

Students in class can retell in writing stories they have listened to and which consist of vocabulary and structures already practiced. They can describe and narrate in writing. The graphics and other writing conventions are observed. Errors in grammar and spelling are infrequent when students are handling course material. They can write longer essays. Their active vocabulary surpasses 1,300 words.

C. Examples of Enabling Activities

- Students cut out advertising pictures from old target culture magazines (or of products in American magazines if the products are also sold abroad). They select three pictures each, for which they will compose target language ads. They are directed to concentrate on imperatives (Buy! Use! Try! Drink! Taste! Discover! Start! Feel! Enjoy! Imagine! Choose! etc.) and descriptive adjectives (best, more, happy, new, healthy, modern, beautiful, good, delicious, etc.). "Negative" words might be used to emphasize what is not true of the product or to describe a competitive product ("brand x").

- In small groups, students pool their cultural knowledge to write newspaper articles about the target society. One group writes about family life, others about school, sports, farming, restaurants, transportation, etc. A newspaper or newsletter might be the result.

- Students write a letter home or to a friend telling what they have learned about the target language people. (They talk a lot at meals. They work hard. They eat five meals a day. They sleep on the floor. They play soccer, not football, etc.) The students are then told the letter might be more interesting if it were personalized. They are requested to change the letter to refer to a person they know in the country or to refer to themselves, since they now do these things.

- Students are given five sentences in the target language. They are to play a game in which the winner is the student (or group) who can construct the most new sentences by adding, subtracting, or changing only the punctuation, diacritical marks, or other distinguishing marks. Students must be able to show that they understand the changes in meaning resulting from their manipulations.

- Advanced students "are arrested" and accused of offending public morality for behavior acceptable at home but not in the target culture. (The offense might concern dress, rowdy behavior, religion, showing too much affection in public, etc.) The students are then released and asked to write an explanation of their behavior, send it to the authorities, and then appear in person before the authorities at a later date for disposition of their case. The students discuss the offense thoroughly in the target language. They then (individually or in small groups) compose an angry letter of explanation. They are then advised to reconsider and to change the letter to one of objective explanation and plead ignorance. They are then asked to change the letter a second time, rewriting it with a tone of apology. They finally discuss the letters and decide which one would be the best version to send.

STANDARDS FOR CULTURE

Cross-cultural understanding does not come easily. It is an attitude and a skill which must be developed, like communicative proficiency, through practice and experience. One does not become culturally proficient by memorizing a list of do's and don'ts, nor by being able to refer to a set of postulates concerning a target society's customs, values, and other components of a culture. One becomes culturally proficient through involvement in a great many real, realistic, and simulated language and cultural tasks which are planned to lead the learner to act and react much like a native in various social and communicative settings. Such training is likely to be more effective if preceded by instruction in "culture" in general.

Teachers should be constantly on guard against the development of cultural stereotypes in students. All members of a particular foreign society do not react or believe alike, any more than do all Americans. Teachers should remain aware that U.S. ethnic groups have become acculturated and seldom mirror closely the culture of origin. Teachers also need to remember that cultures change. What was typical 20 years ago may not be characteristic today.

A. General Standards/Skills

Students understand and appreciate:

1. The universality of human needs, the physical and psychological bases of cultural behaviors, and the unconscious ways in which they themselves prejudge behaviors different from their own.

2. Cultural skills in selected target culture contexts or situations; students can demonstrate appropriate employment of such skills as relating to members of different social classes and acting correctly with respect to religion, politics, food, etc.

3. The significance of specific behaviors of a target culture; students can react appropriately to, as well as exhibit, selected behaviors during communicative tasks.

4. Cultural connotations of selected key words and phrases, gestures, facial expressions, and other body language; students employ these elements properly in communicative and social tasks.

B. Specific Levels/Range/Content

First Year

Students are at least aware of the major cultural contrasts within their own culture, aware of the major taboos, and know the basic courtesies. They have participated in enough culture-oriented tasks in the classroom to act appropriately when faced with situations involving these cultural features. Students are generally not sensitive to other than the major cultural patterns practiced. Such patterns typically involve greetings, leave-taking, dress codes, food, personal relationships, religion, and hygiene.

Second Year

Students can interact with appropriate behavior in most basic social situations, especially if the citizen from the target culture is used to dealing with foreigners. Students can express wants with tact, ask directions appropriately, obtain food, use local transportation, and tip. Errors occur because students still have limited ability with the language and because they still lack many of the more subtle cultural skills.

Third and Fourth Years

At these levels, students should have developed enough practice, experience, and sensitivity not to offend a native of the target society. Misunderstandings will still occur. Routine social situations should be well under control. Rules of etiquette have been practiced, and students are aware of taboos and special sensitivities. Students can make polite requests, accept and refuse invitations appropriately, present and receive gifts, make introductions, place telephone calls, buy and bargain, and carry on transactions properly in a bank or post office.

For fifth and sixth years, see the Appendix.

C. Examples of Enabling Activities

- The teacher directs the students to go through a task involving an ordinary everyday occurrence in the target society which is rare in the students' own culture. After the students become familiar with the occurrence (such as the role of women, concepts of time, manifestations of certain beliefs or values, type of clothing worn, hairstyle, food preparation, child-adult relationships, seeming cruelty, reaction to authority, ways of greeting, etc.), language tasks are performed in which students incorporate the newly learned cultural feature. Finally, the students discuss the basic need being satisfied by the occurrence.

- Students choose or are assigned partners at the beginning of the course. Partners might be changed each week or month. Every day when students arrive in class, they must greet each other with appropriate language and actions. They must also take leave as would be appropriate in the target culture. Students also get the teacher's attention and respond to questions with actions and courtesies of the target culture.

- Students learn a new cultural feature of the target society through a cultural capsule, cultural assimilator, teacher presentation, student skit, or media presentation. After practicing the feature during a communicative task, students discuss the function of the cultural feature and the effect of omitting it.

- Students are presented a demonstration of facial expressions and other body language and gestures which signal exasperation (anger, doubt, joy, ridicule, etc.). They practice these expressions. They employ them when performing communicative tasks involving language functions in the same categories.

- Advanced students analyze one of the following from the target society: a political speech; a column from the editorial or commentary page of a newspaper or news magazine; or a script or videotape of a satirical cabaret-type performance. They look for and list all the cultural elements and references they can find whose significance would escape most Americans if they were to study an English version of the same material. The teacher might point out some the students missed. Students then discuss the mistaken impressions which might result from being unaware of some of the cultural elements they were able to recognize because of their cultural knowledge.

Fifth Year

In general, students are now able to handle some complications which arise in daily and travel situations. They can discuss current events and work if these areas don't become too technical. They can explain. Grammatical errors are not frequent in the more frequently used grammatical structures. Productive vocabulary is at least 1,500 words. Receptive vocabulary should be at least 3,000 words.

Sixth Year

Students can talk at length about many topics, including their special interests. They can handle emergencies, give opinions, argue, evaluate, express intentions, tease, and joke. A certain fluency and feeling for the language is often quite noticeable by this stage of learning. Productive vocabulary is at least 2,000 words. Receptive vocabulary is about 4,000 words.

For details concerning more specific expectations for fifth and sixth years in the areas of listening, speaking, reading, writing, and culture, two resources are recommended: American Council on the Teaching of Foreign Languages Provisional Proficiency Guidelines, levels "Advanced" and "Advanced Plus"; and the Foreign Language Competency Statement of the California Roundtable for Educational Opportunity, stages three and four.

Model Curriculum Standards

Grades Nine Through Twelve

First Edition

History—Social Science

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PREFACE

In 1983, the California Legislature enacted Senate Bill 813 (Chapter 498, Statutes of 1983), a far-reaching reform measure designed to improve financing, curriculum, textbooks, testing, and teacher and administrator training in the state's elementary and secondary schools. One of the central themes of SB 813 is the reestablishment of high expectations for the content that would be taught in secondary schools and for the level of effort and performance by students.

Consistent with this theme, SB 813 reinstituted statewide high school graduation requirements. Before receiving a diploma, every student must complete at least the following courses:

- o English--three years
- o History-Social Science--three years
- o Mathematics--two years
- o Science--two years
- o Foreign Language; Visual and Performing Arts--one year of either
- o Physical Education--two years

To assist school districts in upgrading course content, SB 813 also requires the Superintendent of Public Instruction to develop and the State Board of Education to adopt model curriculum standards for the newly mandated high school course of study. School districts are required to compare their local curriculum to the model standards at least once every three years. The full text of the Education Code Section 51226, which requires the model curriculum standards, is as follows:

> 51226. (a) The Superintendent of Public Instruction shall coordinate the development, on a cyclical basis, of model curriculum standards for the course of study required by Section 51225.3. The superintendent shall set forth these standards in terms of a wide range of specific competencies, including higher level skills, in each academic subject area. The superintendent shall review currently available textbooks in conjunction with the curriculum standards. The superintendent shall seek the advice of classroom teachers, school administrators, parents, postsecondary educators, and representatives of business and industry in developing these curriculum standards. The superintendent shall recommend policies to the State Board of Education for consideration and adoption by the board. The State Board of Education shall adopt these policies no later than January 1, 1985. However, neither the superintendent nor the board shall adopt rules or regulations for course content or methods of instruction.
>
> (b) Not less than every three years, the governing board of each school district shall compare local curriculum, course content, and course sequence with the standards adopted pursuant to subdivision (a).

Development of the model curriculum standards began in early 1984 when the Superintendent of Public Instruction appointed broadly representative advisory committees in six of the mandated subject areas. (Physical education standards will be developed in early 1985.) The committees worked for more than six months, frequently consulting nationally recognized experts, to produce draft standards. The draft standards were then reviewed and critiqued by teachers and administrators from more than 80 school districts throughout the state. The results of this extensive field review were used to make final refinements to the standards.

In recognition that this is California's first effort to prepare model curriculum standards, the standards are being published in a first edition to allow for revisions, where appropriate, as they are further reviewed and used by school district personnel over the next nine months. A second edition is expected to be published early in 1986.

As specified in SB 813, the standards are a model, not a mandate. They reflect the strongest possible professional consensus about the content that every student should be exposed to before graduating from high school. Some school districts will find that their programs are already consistent with the standards; others will set them as a goal to strive towards. Whatever the results of each district's curriculum review, the Superintendent of Public Instruction and the State Board of Education hope that the standards will be of help as teachers, administrators, members of school district governing boards, and others concerned with the schools work to build a stronger, richer curriculum for all our students.

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INTRODUCTION

> In California, we are striving to develop a consensus on what should be taught in history and the social sciences. We believe that this subject should be organized around the discipline of history, bringing in ideas and concepts from other social sciences, and offering students a chronological understanding of who we are and how we got to be here. If our students don't study the past, don't know what people believed, how they acted, what they struggled for, and what happened to them, then they will never truly understand the present. We will have denied them the opportunity to develop the perspective and depth to navigate the present successfully on their way to the future.

Humankind's sense of the past is one of the defining characteristics of our species. For thousands and thousands of years, we have recorded the names of our kings, queens, and city builders, and described the events which changed the destiny of nations. The unique human activity that allows us to record and assess our past is remarkable--and unappreciated.

In the minds of too many people, the record of human achievement is lifeless and useless. For them, history is a tool of discipline to impose memorization of arbitrary facts. This is more than unfortunate--it is dangerous. Because we believe that all California citizens must have some sense of what human effort can achieve, we dedicate this reform movement in the History-Social Science curriculum to understanding the relationship of the past to contemporary and future developments. If we are conscious of the present, and concerned for the future, we must understand how earlier people lived and what they were prepared to die for.

Students need to understand democracy, but they also need to understand how fragile democracy can be. A democracy will fail when citizens do not know how to preserve it. That is as true today as it was in ancient Greece. Democracy rests upon the notion that a society can consciously choose a better path for all its citizens. Our students must learn about democracy--what it is and where its pitfalls are. Students must appreciate how freedom is attained. At the same time, they must learn that there is no freedom without responsibility.

It is intended that courses and concepts in the realms of History-Social Science will confront students with the knowledge they need in order to appreciate this responsibility. The current curriculum reform stimulated by Senate Bill 813 (the Hughes-Hart Educational Reform Act of 1983) is focused in the writing of model curriculum standards for specific mandated courses in grades nine through twelve curriculum. The History-Social Science curriculum must provide a basic fund of knowledge and a sound battery of skills, structured in a developmental sequence. But knowledge is not simply factual data, or skills taught in isolation. It is a body of concepts and processes which enables us to understand our development as citizens in an increasingly diverse and interdependent world.

In order to better utilize the insight provided by History and Social Science perspectives, we have identified five realms of broad educational responsibility for educators and then suggested six specific recommendations to implement reforms in the History-Social Science curriculum.

The Five Realms of Responsibility for Educators

1. The linkage between the past and the present must be vitalized.

The recorded actions of generals, patriots, villains, kings, queens, inventors, assassins, and common people must be shown to be relevant to the lives of contemporary students. Students must experience an emotional connection with the names, places, and events on a historian's time line. These must not be reduced to items to memorize, but should be perceived as risk and daring in the lives of real people. The willingness of the Wright brothers to risk air flight; the daring of Columbus to push his men to near mutiny in his search for the Indies; the absolute force the first emperor of China exerted over his new empire--these are the dramas of history. Students should feel the passion and make it their own.

In the standards for United States History and Geography, we have emphasized the emotional bond between the past and the present. We first look at the historical development of our system of government, politics, and public policy. Then we outline the themes that provide understanding of our identity as a people. This is followed by a section on growth and change in the economic and social systems of the United States. The final two sections list the formative elements in the American character and value system, and a comprehensive chronology. In all these areas, we highlight the critical role of initial decisions, such as the decision to begin this nation with revolutionary force backed up by a specific and dynamic body of philosophical theory. Thus, students can understand how much today's problems and prospects grow directly out of these historic events. Students should see themselves as the present link in an unbroken chain of events between the past and the future.

2. The breadth of perspective in the History-Social Science curriculum must be highlighted.

History textbooks underscore events such as the capturing of new land for an empire. To comprehend such an event, we need a theoretical perspective. The political scientist focuses on imperialism. The geographer shows how this expansion leads to the diffusion of crops, languages, culture, and people. The economist illustrates the catalytic effects expansion has on labor and production systems in both the old empire and new colony, while the anthropologist assesses the potential for cultural conflict. Sociologists and psychologists, as well as artists who express their reactions in literature, art, dance, and music, all analyze the same event in distinctive ways according to their disciplinary perspectives. The History-Social Science curriculum must allow students to experience a variety of these perspectives.

In the model curriculum standards for World History, Culture, and Geography, our design centers on history, culture, and geography, three distinct but complementary perspectives. History emphasizes the link between the past and the present, the examination of data sources, and the vital role of change. From the cultural perspective, the standards promote the consideration of the distinct forms of basic human institutions in different cultures, varying artistic expression, the influence of dynamic individuals, and the origins of our own culture in places and customs from around the world. For the geographer, this new curriculum provides an opportunity to teach California students some of the essential tools of geography, to have students comprehend the differing physical and cultural characteristics of various regions of the world, to promote the understanding of the complex interactions of people with their environments, and to evaluate the outcome of continual human alteration of--and interaction with--the earth's environment.

Thus, students will appreciate the variety of human action, reaction, and cultural expression. Change and growth have been fueled by different peoples and nations at different times. The responsibility of California educators is to make past actions and strong cultural expression emerge as vitally connected to life today.

3. Instruction in history should be supported with instruction in geography so that students understand where and why the events of the past took place, so that the critical role of the environment, location, resources, and demography may be better comprehended today.

History does not take place in a vacuum. Peoples have interacted with each other in a worldwide variety of settings, and the nature of those settings has been a significant factor in the way history has developed. The History-Social Science curriculum should be designed so that students understand that people have always had distinctive attitudes towards the environment, natural resources, and the potential utility of certain kinds of places. To show how wars, empires, great cities, even technological inventions, all relate to the nature of the earth's environment is to demonstrate an essential variable in all human development. For students to comprehend human tensions and interactions in contemporary societies, these geographical factors must be understood. Such a relationship is most productively blended with instruction in history.

4. Utilizing the History-Social Science curriculum for the learning of academic, civic, and social skills is essential.

All education should improve the lives of the students. The specific goal of the History-Social Science model curriculum standards is to prepare California youth to assume productive, thinking, and satisfying roles in contemporary society. Achieving this goal involves the acquisition of academic, civic, and social skills. Each competence is enhanced by another set of skills; for example, people need to know how to get others to listen to them, while a captivating speaker must have something to say.

The History-Social Science curriculum provides opportunity for the development of the skills essential to knowledgeable and responsible citizens. These focus upon problem solving and critical thinking skills relating to a common core of American civic values. They also include interpreting spatial patterns through maps and graphs, locating and comprehending physical and cultural geographic data, and understanding the significance of history and social science materials. The capacity to read, write, and compute will be enhanced by these activities. These skills also strengthen the student's ability to listen, form hypotheses, speculate, observe, draw generalizations, and make inferences.

Students will also learn to apply abstract reasoning and hypothesis-testing skills, be able to distinguish among relative values, make choices that benefit themselves and others, and have the opportunity to involve themselves in democratic processes. The school should provide a setting for open examination of controversial subjects and issues. Students must be taught to realize that we live in a rapidly changing world, where problem solving and decision making are vital, not just for academic development, but for the shaping of individual and personal lives.

The model curriculum standards for American Government, Civics, and Economics pose three questions about the origins of our cultural and political institutions. Students are asked to consider:

a. What basic beliefs and ideals underlie American democracy?

b. How do our governmental and economic institutions become public policy at the local, state, and national levels?

c. How can individual citizens participate effectively in the American political and economic systems?

These questions naturally give rise to student discussion and research, role-playing, community involvement, and class debate. Social as well as academic skills emerge as students and teachers answer these relevant questions as partners in a mutual intellectual endeavor.

Teachers as well as students need a sense that their material has a connection with their lives beyond the classroom. Creative and intelligent teaching can help students to understand the relationship between historical precedent and contemporary responsibility. If we are going to retain desired elements of our society and modify ineffective characteristics, we must be able to make informed decisions. Training students to participate in this process of directed change is a major goal of the History-Social Science curriculum reform.

5. Our state and nation are pluralistic, sharing common values.

Although the population of California is diverse, there are common drives and goals for virtually all social groups. Throughout the grades and course of instruction, students will be constantly made aware of the basic values and principles of our democratic constitutional system. Awareness arises partly from the examination of universals, such as justice, equality before the law, truth, authority, social responsibility, participation, respect for persons and property, and the personal obligation to the public good.

Examples of diversity appear in all three sets of model curriculum standards in History-Social Science that we have written. The varied languages that a student hears in school, the distinctive family patterns mentioned in casual as well as classroom conversations, and the whole range of religious, dietary, costume, and leisure-time preferences must be viewed as positive benefits to all Californians. This diversity is not artificial or temporary; it is a pattern of pluralism that California will know for a long time to come. Pluralism must be understood and appreciated if we are to grow together as a people, both in the state and the nation.

Cultural pluralism is balanced by common values uniting us socially and politically. We all desire a society in which justice, freedom, due process, equality of opportunity, and access to education are available to all. Notwithstanding the multiplicity of cultures, we all seek a political system that guarantees these basic liberties and political opportunities. Civic and social participation are essential to secure civil benefits. The History-Social Science curriculum should guide students towards full participation in our free and diverse society.

Recommendations

Teachers, school administrators, parents, and students should all invest energy and creativity not only in the five realms of educational responsibility, but also in the following recommendations. These constitute a set of specific guidelines for implementing reform in the History-Social Science curriculum.

1. The History-Social Science curriculum should provide a sound and broad-ranging knowledge base.

   Students should be challenged to understand the nature of major events, places, and people, both well-known names and ordinary citizens. Identification with historical persons allows students to develop role models of citizenship and character development. The study of events exposes students to key ideas, concepts, and themes. In the process of examining them, students learn social science analytical methods. When appropriate, original sources such as autobiographies, diaries, documents, and contemporary commentaries should be used in the classroom. Literature, music, and art from the period or the place under study should also be included. Teachers and students are more likely to relate history and geography to current life in California and in our larger, interdependent world if they are emotionally involved. The broad variety of content in this curriculum can provide the facts that lead to this spirited involvement with the world.

2. The History-Social Science curriculum should provide many opportunities for students to develop and demonstrate their creative and critical thinking skills.

   The content and learning experiences for teaching creative and critical thinking skills should be drawn heavily from the History-Social Science curriculum. In addition, materials should be used from such areas as science, mathematics, literature, foreign languages, drama, and the visual and performing arts. The reinforcement of basic skills will occur when students are required to write essays and reports, conduct research, analyze information, debate issues, and complete homework that extends learning and classroom activities appropriate to the age, ability, and grade level of the student.

Students should be stimulated to learn the social skills that enable them to question, challenge, and examine the human experience through group discussions, team projects, and debates. In the upper grades, students can formulate problems and select strategies for their solution.

Integral to the study of History-Social Science is the examination of issues chosen to teach critical thinking skills. In a current events program, students can report, analyze, interpret, speculate, and write critically, using a variety of sources. Magazine and newspaper articles, radio and television, instructional media, electronic data bases, political cartoons, and guest speakers are examples of potential resources in addition to classroom textbooks.

3. The History-Social Science curriculum should provide for the understanding of American civic values.

Students should be exposed to educational experiences which provide knowledge of the world close at hand as well as intellectual appreciation of the world at large. Institutions, events, and activities within the classroom, school, or community should be part of the resources of a vital History-Social Science program, with students observing, perhaps participating, and then reflecting upon their experience.

Sustained study of the responsibilities of citizenship, based on realistic knowledge and discussion, can provide a perspective and a frame of reference for intelligent and productive participation in a democratic society. The History-Social Science curriculum should continually build toward understanding of this basic essential of democracy (responsibility).

Critical areas in this curriculum include rights and responsibilities; civic skills, such as an understanding of local, state, and national government; and instruction in the principles, organization, and operation of the American legal system. Citizenship education should prepare students to participate in society both as individuals and as members of groups. Linking principles to the practice of institutions is an essential part of the History-Social Science curriculum.

Students should also be sensitive to the pluralistic and diverse nature of today's world. They need also to realize that history does not deal only with white males, nor is it only an artifact of Western civilization. California is an excellent setting in which to gain an understanding and an appreciation of this reality.

4. The History-Social Science curriculum should begin in kindergarten and continue without interruption through grade twelve with a specific period of time in each school day devoted to instruction.

The overall curriculum should be organized and coherent throughout all grades, avoiding needless repetition. Teachers and curriculum planners, with assistance from parents, should decide how best to adapt the curriculum to meet the specific needs of the local community.

The content of the grade-level instruction in the History-Social Science curriculum should be essentially interdisciplinary. This current reform in California curriculum is intended to promote the creative utilization of the social science approach, with the teacher and the student trying to view facts through the eyes of a variety of perspectives. While certain disciplines may be dominant in certain settings and for some materials, all the disciplines of the social sciences and humanities should be interrelated in a required K-12 curriculum.

5. History-Social Science curriculum materials are continually undergoing evolution and expansion both in content and interpretation; hence, attention must be paid to ongoing evaluation procedures.

   Because of the continual development of new perspectives in the body of materials that make up the content in the History-Social Science curriculum, there is bound to be the potential for change in the materials and methods of instruction. Elements of the curriculum that should be considered in this evaluation process include student performance; scope, sequence, and emphasis of the curriculum; methods of instruction; as well as student ability to interact.

6. The demands of the curriculum in History-Social Science require that the State Department of Education, local school districts, and institutions of higher learning in California all work together to provide an expanded series of staff development, in-service training opportunities, and summer institutes.

   The classroom teachers who will have to deal with the greatest responsibilities of these educational reforms need to have increased educational opportunities so that they can gain the desired and necessary instruction in the History-Social Science curriculum. The responsibility for these opportunities falls jointly upon the State Department of Education, the California school districts, and California institutions of higher learning. These three levels must work together to provide a broad continuum of staff development programs and curriculum materials, from short in-service sessions to summer institutes, from resource materials to handbooks and frameworks.

Conclusion

The study of history and the perspective of the social sciences is fundamental for all students at all grades and at all levels of skill and achievement. A reconsideration of the content, scope, and sequence of these disciplines will provide an opportunity for schools to revitalize instruction. An increase in the time allotted each day to History-Social Science may be advisable. In addition, courses being taught in both the elementary and secondary grades may have to be modified in order to provide for continuity, to include all curriculum essentials, and to eliminate needless repetition.

A well-organized curriculum will provide for an upward spiral of recurring themes and concepts at gradually more challenging levels. The California curriculum can better serve its diverse students by focusing attention on the vitality of history, the development of civic skills, the importance of broad perspectives, the significance of the role of geography, and understanding our nation's pluralistic society. As students progress in History-Social

Science, they will understand the need for personal judgment in the light of facts and the search for evidence. Such a process will promote respect for other points of view.

Curricular reform and statewide support for more effective schooling will help California achieve the level of educational success that its people deserve. The History-Social Science curriculum should be at the core of such an ambitious educational reform.

ORGANIZATION AND FORMAT

The three courses required for History-Social Science are United States History and Geography; World History, Culture, and Geography; and American Government, Civics, and Economics. The standards have been interpreted as being essential elements of these courses. Prior to utilization of each set of standards, districts should carefully consider the philosophy, educational goals, and recommendations described in the Introduction.

Each set of standards for the three courses in History-Social Science begins with a statement of philosophy about the course, generally agreed upon educational concerns, and further description of the organization of that particular set of standards. While there is similarity in format among the course standards, some differences were necessary because of the nature of the content. As an example, activities are included in the Economics portion because of requests for teaching strategies in a subject area which is new to the curriculum for all students in some schools. Following the statement of philosophy are listed prerequisites for each course: knowledge and skills which students should have in that curriculum area upon entering high school study. The History-Social Science curriculum is one to which a student should return to a concept again and again, each time bringing a new perspective and acquiring a new level of mastery. To this end, it is critical that the overall curriculum be organized and coherent, yet not needlessly repetitious from kindergarten through grade twelve and that the elementary years be planned with consideration for including the knowledges and skills needed for entering the high school courses.

The model curriculum standards which follow for each course have been structured so as to promote an understanding of the interdisciplinary nature of the forces that have influenced human development. In the two history courses, there is a blending of social science and humanities themes into one body of material for each course.

This approach was chosen because of the fundamentally broad way in which the flow of events, places, and people come together in a continual harmony (or disharmony) with geographical and cultural influences. This blend is ofttimes seen as history, but the social sciences and the humanities offer still other additional perspectives on the development of the human experience. The model curriculum standards are intended to accommodate these varied perspectives.

The format used does not mean that geography, for example, is to be discounted. Broad themes in geography appear in these two courses and are essential components of the standards. The same applies to the other social sciences and the humanities. The standards are written in such a way that the perspectives of historians, geographers, political scientists, economists, sociologists, psychologists, and anthropologists can be used by curriculum planners and teachers as they deal with the specifics of the local curriculum.

American Government and Civics standards were separated from the Economics standards in the third course because the content is different for these curriculum areas. It will be noted that there is some overlap of content in

American Government and Civics with that of United States History and Geography. This was done because there is not a mandated sequence for offering these courses in the high school curriculum. School districts may wish to make specific decisions about when to emphasize standards in the courses in light of their course sequence and the preparation received by the students in kindergarten through grade eight.

The standards which follow for the three courses are enclosed in boxes. The information following each standard is illustrative of material such as topics, concepts, events, people, places, and in some instances, student activities to give additional definition to the standards. This information has been included for the benefit of district curriculum planners and classroom teachers for developing curriculum and lessons. There are countless other illustrations that could be presented, and local school districts and teachers will want to enrich the model curriculum standards. To support the enrichment of the standards, it is suggested that districts develop supplemental student lists of literature and original source documents related to History-Social Science curriculum and reference materials for teachers. Future editions of these standards may include a compilation of these references.

One standard in each course addresses the importance of teaching study or basic skills, critical thinking and interpersonal skills, or social participation skills as an integral part of the History-Social Science curriculum. In each case, reference is made to the skill goals in the section that follows.

The two history courses conclude with a standard and a listing of some of the people who have made significant contributions to and affect the histories of the United States and the world. When developing curriculum, curriculum specialists and teachers should include names of men and women for whom students should have an understanding of the place they play in history.

Skill Goals in the Model Curriculum Standards

Skills should be considered a major component of each course in the model curriculum standards because they represent the critical bond among the goals of History-Social Science education: knowledge, values, and social participation. Skills are essential tools for learning that allow students the opportunity to process learning and effective participation. They cannot be developed quickly or from isolated drills. Instead, skills are acquired and honed from opportunities for constant practice and through systematic planning of the History-Social Science curriculum.

Although many skills are essential to History-Social Science education, they can be grouped into three major categories for convenience.

Study or basic skills

Among the processing tools are the basic study skills:

- o Acquiring information through listening, observing, reading, and utilizing community resources
- o Locating information in textbooks, encyclopedias, specialized dictionaries, almanacs, and other reference materials

- Compiling, organizing, and evaluating information presented in books, periodicals, and other media

- Extracting and interpreting information from maps, models, graphs, charts, tables, pictures, and cartoons

- Communicating orally and in writing

Critical thinking skills

The area of critical thinking skills is one that has received renewed attention, as it allows the student to interact with information in many ways and at different levels. The skills, however, are simple acts that are combined in different ways to create an increasingly complex series of steps. As a consequence, it is essential that critical thinking skills be taught and then applied in a continuum of new and varied situations. Among the skills are the following:

- Defining the problem

  - Identify central issues or problems.
  - Compare similarities and differences.
  - Determine which information is relevant.
  - Formulate appropriate questions.
  - Express problems clearly and concisely.

- Judging information related to the problem

  - Distinguish fact from opinion.
  - Check consistency.
  - Identify unstated assumptions.
  - Recognize stereotypes and cliches.
  - Recognize bias, emotional factors, propaganda, and semantic slanting.
  - Recognize value orientations and ideologies.

- Solving problems/drawing conclusions

  - Recognize the adequacy of data.
  - Identify reasonable alternatives.
  - Predict probable consequences.
  - Test conclusions or hypotheses.

Interpersonal or social participation skills

The development of interpersonal and social participation skills allows students to use the concepts and processes to their fullest advantage. The ability to interact effectively has always been a key strength of the human species. To neglect the nurturing of the social and civic participation skills would be a dereliction of one of the major responsibilities of the public schools--the socialization of tomorrow's citizenry. Among the skills needed by students is the ability to:

- Feel for others; empathize with them; be sensitive to their needs, problems, and aspirations; see things as others see them; and take the perspectives of others.

- Understand multiple perspectives of societal phenomena.

- Examine one's own feelings, values, capabilities, and shortcomings with an eye to developing a healthy, mature, and realistic concept of self.

- Recognize one's own biases and prejudices on historical and societal phenomena.

- See people as individuals rather than applying stereotypes to them or classifying them arbitrarily as members of particular groups.

- Balance facts and feelings, the intellectual and the emotional.

- Work effectively with others as members of groups.

- Give and receive constructive criticism.

- Accept responsibility and demonstrate respect for the rights, opinions, and property of others in the classroom, the school, and in the larger community.

--1981 History-Social Science Framework, pp. 6 and 7

In conclusion, the model curriculum standards are in general alignment with other resources available for curriculum development: The History-Social Science Framework for California Public Schools, Kindergarten Through Grade Twelve, 1981 and Raising Expectations, Model Graduation Requirements, a statement of the California State Board of Education, 1983. The standards are given the course titles described in the SB 813 (Chapter 498, Statutes of 1983) legislation. Although these titles may vary from those given in these resources and those used in districts, curriculum planners should find correspondence in the content.

UNITED STATES HISTORY AND GEOGRAPHY

The model curriculum standards that follow direct the teacher to what is important in United States History and Geography, and provide in a broad way suggestions about how such a course might be taught. Teachers will undoubtedly include a variety of material in their courses besides what is suggested in these standards, but they should recognize that the standards include subjects and materials that are indispensable to the understanding of the American past.

Every course in United States History and Geography should pay attention to chronology; American history should be taught so as to allow students to comprehend the relationship of past to present. Relationships, connections, and apparent breaks in American history can be understood more successfully if the teaching of that history is cast in some chronological form.

At some point in a United States History and Geography course--perhaps both at the beginning of the course and at its end--students should be asking, "How would we characterize the American character today?" Asking this question is an effective device for stimulating interest in the subject and for pointing out the connections of the past to the present. The second large and essential question is, "How did we, as a people, become what we are today?" However, in considering these questions, students should be taught that the past is not simply the present writ small; that people in the past lived their lives for their own purposes; that, indeed, there is much in the past that has not survived.

Geography in this set of standards is a continuous element in the consideration of American chronology, historical development, growth, change, character, and values. Cultural institutions are responsive to physical and cultural geography and responsible, as well, for shaping human environments. The geographic significance of place has been with us from the decision for the setting of our earliest settlements, to the locations of contemporary shopping malls. It is always important to know where essential places and landscape features are, and why and how it is that they are there. It is just as vital, however, to consider the reasons for our population's ethnic diversity, our patterns of national mobility, and our range in environmental preference, just to touch on three of the themes that underscore the role of geography in our better understanding of the American character and development. These questions are all aspects of this set of standards.

Prerequisites

An effective study of United States History and Geography requires that students will have acquired an understanding of the following before they enter this course:

1. Students should be able to locate the major landforms, physical features, and major natural resources of the United States and be able to identify the continents, oceans, and landforms of the world.

2. Students should be able to identify those men and women and groups who have made major contributions to the political, economic, social, and cultural development of the United States.

3. Students should have a broad-based chronological background of significant events and critical turning points in the American experience.

4. Students should be able to identify the three branches of government and some of the basic rights guaranteed to individuals by the Constitution and the Bill of Rights.

5. Students should be able to perform the following basic study skills:

   - Read with comprehension.
   - Locate and extract information from a variety of sources.
   - Interpret pictures, cartoons, graphs, charts, and maps.
   - Communicate effectively both orally and in writing.
   - Recognize the differences in duration of various periods of time.

6. Students should have engaged in the development of critical and creative thinking skills.

7. Students should have had the opportunity for the development of essential group skills to allow participation in the interactive democratic process.

MODEL CURRICULUM STANDARDS

A. IMPORTANT CHRONOLOGICAL ELEMENTS

1. A course should enable students to understand the chronological flow of events, the dynamics of change, and the critical links between past and present.

*Refer to pages 25-29 for the important chronological elements to be included in a United States History and Geography course.

B. THE HISTORICAL DEVELOPMENT OF THE UNITED STATES GOVERNMENT, POLITICS, AND PUBLIC POLICY

2. A course should examine the British legal and political heritage of American governmental institutions.

- Significance of the British defeat of France and the Seven Years' War
- The English Common Law-Case Law system, as opposed to Roman or Code Law
- Representative government with checks on powers of the executive
- Fiscal constraints on the chief executive
- Bicameral legislature
- Conferral of Rights of Englishmen on American colonists: jury trial, bail, the English Bill of Rights

3. A course should highlight the importance of checks and balances on United States national, state, and local governments.

- The three branches of government--executive, legislative, and judicial--selected by different constituencies for differing terms of office
- Provisions for veto and override of veto between executive and legislature
- Liberalized changes in the system of the founding fathers (e.g., direct election of presidential electors and members of the U.S. Senate)
- Initiative, referendum, and recall in some state and local systems

4. A course should assess the historic role of interest groups in American politics.

- Farm organizations
- Trade and manufacturing associations
- Labor organizations
- Professional associations
- Cultural associations: religious, philanthropic, racial, ethnic
- The tendency of some organizations to form long-term political alliances or parties

5. A course should trace the formation and evolution of United States political parties.

- Washington's and Madison's dilemma: interest groups that coalesced into parties
- Federalists and Jeffersonian Republicans (c. 1789-1816)
- Era of Good Feeling (1816-early 1820s)
- Whigs and Democrats (c. 1834-1850s)
- Republicans and Democrats (1850s-present)
- Shifting of issues between parties
- The importance of third parties in giving focus to neglected issues
- Reasons for two-party system as opposed to multi-party systems

6. A course should stress the growth and change in democratic participation, including the voting franchise.

- The first U.S. voters: minority rule by free, white, adult males who met religious and property restrictions
- Dropping of religious and property qualifications by 1833
- Direct election of state legislators, U.S. House members, and presidential electors
- Constitutional Amendments 15, 19, 24, and 26, broadening the franchise regarding race, gender, poll tax payment, and age
- Higher voter eligibility--lower voter turnout--a modern American dilemma

7. A course should present the balance between public emphasis and individual rights/self-interest in United States history.

- Attitudes toward financing government: taxation for the "public good"
- Attitudes toward tariffs and other government subsidies
- Eminent domain
- Military needs and obligations: defense costs, volunteers vs. the draft
- War and public policy: tighter regulation of individual conduct, xenophobia, and public hysteria; e.g., Japanese internment
- Changes in needs and values from an era of frontier individualism to an organized society

8. A course should help students evaluate the causes and effects of American military involvements.

- Colonial wars and the British heritage
- American Revolution and War of 1812: U.S. independence from Europe
- Mexican War and Spanish American War: U.S. aggression and expansion
- The Civil War: struggle for union and economic dominance
- World Wars I and II: totalitarianism vs. U.S. interests; campaigns to make the world "safe for democracy," Marshall Plan
- The policy of military containment of communism: Korea and Vietnam
- War as an extension of foreign policy

9. A course should evaluate American foreign policy in the light of internationalist/isolationist cycles.

- Geographical factors: continental insularity from Europe and Asia and a growing sense of self-sufficiency
- The "no entangling alliances" and "embargo" views of Washington and Jefferson
- Monroe Doctrine
- Manifest Destiny and imperialism
- Technology and the narrowing of geographical barriers
- World War I: neutrality, intervention, and isolationist reaction; rejection of membership in the League of Nations
- F. D. Roosevelt's move away from neutrality (late 1930s)
- World War II, the United Nations, and U.S. foreign aid
- Global foreign policy perspectives: totalitarianism vs. the "free world"

10. A course should view United States history from a perspective of global economics.

- Multi-angular trade with Europe, Africa, and the Caribbean in colonial times
- Deflection of trade to Latin America and the Pacific area (1763-1815)
- Pan-Americanism
- Manifest Destiny and dollar diplomacy
- Post-World War II and massive aid to foreign powers and peoples in the Third World
- World Bank, International Monetary Fund, multinational corporations
- Return to the colonial economy: moving factories abroad, importing more manufactured goods, and exporting more raw materials; trade imbalances
- Interaction of geography, culture, and history in global economic systems

C. GROWTH AND CHANGE IN AMERICA: ECONOMIC AND SOCIAL DEVELOPMENTS

11. A course should develop an understanding of the influence of geographical factors in United States history.

- Abundance of agricultural land
- Abundance and diversity of forest and mineral products
- Water resources: precipitation and irrigation; water redistribution
- Inanimate energy: wood and fossil fuels, geothermal sources, wind, and tide
- Dangers of exhausting nonrenewable resources such as fossil fuels and soil
- Development of strong regional differences within the United States

12. A course should assess the significance of the American frontier.

- The frontier hypothesis: Frederick Jackson Turner and other theorists: Frontier as "safety valve"
- Geography of the West
- The American interest in renewal and beginning again through migration toward the frontier
- Speculation, land development, and individualism as economic and social components of the frontier phenomenon

13. A course should emphasize the role of agriculture in American life.

- Pre-twentieth century America: a predominantly agricultural society
- Agricultural systems: single-family subsistence farming, self-reliance, attempts at feudalism, plantations, corporate farms, "factories in the fields"
- Soil erosion, patterns of overgrazing, and traditional perception of abundant farmland
- Impact of mechanization and technology on producing, preserving, and distributing

14. A course should trace the rise of the city and deal with rural/urban tensions.

- Inventions and technological unemployment in agriculture
- Decline of available farmland
- Urban America: the center for industrial giants and jobs
- Social and economic interaction of rural and urban people
- Rural vs. urban interests: the Farm Bloc and problems of reapportionment
- The increasing cultural pull of the city and rapidly growing rural-to-urban migration
- Growth of suburban America, new cities

15. A course should investigate the rise of manufacturing and big business.

- Background: cottage industry, family-based businesses; United States system of free enterprise and modified market economy
- The Civil War and industrial fortunes of the late 19th century: Age of Plenty
- Textiles, iron, steel, and petroleum
- The development of major industrial nodes
- The trusts, "trust busting," and business regulations
- The partial displacement of the family as an economic unit
- The impersonal nature of the corporation
- The profit motive and the need for environmental protection and preservation
- Multinational corporations

16. A course should examine the role of different labor systems and of labor organizations in the history of the United States.

- Labor scarcity in pre-modern America
- Joint stock company laborers; early experiments with feudalism
- The family as the primary labor unit
- Bound labor: slavery, indentured servitude, and peonage (in the Southwest)
- After abolition: sharecrop, share tenant, crop lien systems
- The dominant role of the free market labor system: application and limitation
- From the guilds to AFL-CIO: organized labor in America; confrontations
- Migrant and "illegal" farm workers
- Rising prices of commodities vs. inexpensive foreign competition
- Expanding importance of service industries, especially in American cities

17. A course should recognize the importance of the transportation revolution in United States history.

- Spanning the oceans: improvements in sailing ships and navigation
- Wagon and wagon roads: the horse, mule, and ox age; pony express; camels
- The riverboat and canal age
- The iron horse: eastern and transcontinental railroad lines; growth of towns and cities
- The modern era: steamships, automobiles, aircraft
- The role of government subsidies and regulations

18. A course should study the impact of scientific, technological, agricultural, and industrial achievements on population patterns and economic conditions.

- Rapid growth in research and development in machinery, communications, and agriculture
- Increasing interest in applied science and the utility of scientific methods of production
- Continued technological displacement of labor from the rural sectors to the cities
- Steady westward migration

19. A course should recognize the steady growth of environmental awareness and concern.

- Early adaptation to the natural setting of the Atlantic seaboard
- Expansion of farm size as settlement moved westward
- Teddy Roosevelt and the origins of the American Conservation Movement
- The rapidly increasing pace of environmental transformation, post-World War II
- The development of environmental concerns as a political force

20. A course should stress the roles of women and their unique contributions to American life.

- The influence of mortality rates, family size, and economic conditions on the status of women
- Identification of the pervasive cultural bias against women in United States history
- The gradual movement of women into new roles as crusaders for social members of labor organizations, political participation, expanded contacts in business and industry, as well as achievement in the areas of writing and the visual and performing arts
- Women as primary transmitters of culture in the home in earlier roles
- Working women and the change of traditional roles in families
- Women's Liberation Movement and the proposed Equal Rights Amendment
- The elimination, through legislation, of certain aspects of discrimination: voting, pay, credit, law, and the military

21. A course should focus on the expansion and growing importance of the media in American life.

- Town criers, newspapers, and broadsides: the first media
- The battle for freedom of expression
- The First Amendment to the Constitution
- Telegraph and telephone
- Newspapers, journals, and magazines
- Radio, television, satellites, and the economics of communications
- Movie industry
- The educational credits and liabilities of the media
- Propaganda potential of modern mass media
- Growth of popularity of spectator sports and the media
- Computer technology

22. A course should devote attention to the role of the United States in the technology and politics of the nuclear age.

- Nuclear breakthrough: Manhattan Project, White Sands, Alamogordo, and Hiroshima
- Peacetime nuclear testing: radioactive and political fallout
- Nuclear power and the problems of malfunction and waste disposal
- Truce of terror: the arms race and arms limitation issues
- Nuclear science and medicine

23. A course should include an examination of American social and cultural contributions.

- Folk culture, including legends and arts
- Rationalism in the eighteenth century
- Romanticism and transcendentalism in the nineteenth century; the literary renaissance
- Social class flexibility for individuals
- Free public education and libraries
- Initiation of a variety of humanitarian reform movements
- Art and architecture
- Artistic and literary realism in the late nineteenth century
- Amusements and recreation in the American life-style
- Twentieth century art movements
- Magazines and newspapers
- Mass communications and entertainment in the twentieth century

D. AMERICAN CHARACTER AND VALUES: SOME FORMATIVE ELEMENTS

24. A course should stress the importance of America's preoccupation with exploration, discovery, control, and development--from initial settlement to the space age.

- The vision of Columbus and Isabella (1492-1503)
- English colonizing expeditions (1580s-1620)
- The vision of Thomas Jefferson: Louisiana Purchase; Lewis and Clark expedition
- Urge to the Pacific: sea traders, mountain men, pioneer farmers, miners
- Maritime explorers: Pacific and Polar expeditions
- Dust Bowl and other Depression Decade migrants
- The moonwalkers (1969) and the space program

25. A course should encompass the study of the influence of religion in American history.

- Missionary zeal as a motive for early exploration and expansion
- English acceptance of diverse religious dissenter groups in the colonies
- The "established" church and the moves to separate church and state
- Religious diversity as a motivation for both intolerance and tolerance
- Religion and reform movements: temperance and abolition
- The social gospel of the late nineteenth and twentieth centuries
- Fundamentalism vs. modernism; creation vs. evolution
- Modern trends: ecumenism, healing civil war cultural wounds, religion moves into political arena, use of television, renewal of controversy over church-state issues

26. A course should deal with the image of America as a land of opportunity and a land of refuge.

- Fortune seekers from abroad
- Religious, political, and economic refugees: the colonial and early national period
- Old World displacement of American Indians (moving from both east and southwest)
- Slave trade: the forced migration of African peoples
- Asian migrations, 1850 to early twentieth century
- The "new" immigration from eastern and southern Europe, late nineteenth to early twentieth century
- Immigration restrictions and quotas
- World War II and post-war refugees
- Legal and illegal immigration from Latin America and other countries
- Southeast Asian refugees (1970-present)

27. A course should give attention to the concept of unlimited natural resources and the shaping and exploitation of the environment.

- The forest primeval: timber clearance for agriculture
- Consequences of soil use, erosion and overcropping
- Mining and the changing of the landscape
- Trapping fur-bearing animals and slaughtering the buffalo
- Territorial expansion: the conquest of new resources
- The arid lands, overcropping and grazing, and water redistribution
- The fossil fuels
- Conservation and recycling
- Pollution, pollution control, and chemical hazards
- Increase of endangered species
- Current attitudes toward maintenance of the environment

28. A course should assess the role of optimism and opportunity in a land of work: the belief that energy, initiative, and inventiveness will continue to provide a promising future.

- The view of limitless land and resources
- Social and economic mobility in a society without class restrictions
- The work ethic: Puritan New England and John Smith's Virginia to present
- Work combined with social activities
- From home craft and family shop to assembly-line production
- Agricultural inventions
- Rotation of crops
- Inventions in communications and industry
- Inanimate energy and the meeting of human wants and needs

29. A course should promote an understanding of the roles, contributions, and living patterns of the common people.

- Farmers and a life geared to nature's cycles
- Self-reliance in a one-to-one relationship between individual or family and nature
- The life of the slave and the indentured servant
- The laborer, from small shop to factory and on the impersonal assembly line
- The white collar worker
- The lives of women and children
- Life in the town and city
- Personal mobility: a horse in every stable--a car in every garage; mobile homes; commonplace air travel

30. A course should explore the American beliefs in individual freedom, equality before the law, and the worth and dignity of the individual as represented in basic documents.

- Mayflower Compact
- Fundamental Orders of Connecticut
- Declaration of Independence
- Northwest Ordinance of 1787
- *Federalist Papers*
- Constitutional guarantees, including the Bill of Rights and other amendments
- Gettysburg Address
- Atlantic Charter
- Brown vs. Board of Education of Topeka
- Civil Rights Act of 1957--Title IV

31. A course should underscore the significance of reform movements, philanthropy, and social responsibility in America.

- The individual and the family as self-reliant units
- Work farms, workhouses, and almshouses
- Transcendentalism
- Temperance
- Abolitionism, the Freedmen's Bureau
- The social gospel
- Progressivism, Square Deal, New Freedom, New Deal, and Great Society
- Suffrage: Equal Rights Amendment (proposed)
- Environmental protection
- Social security, unemployment compensation, welfare, and workfare
- Civil Rights Movement
- Health care

32. A course should examine the establishment and support of a broadly based public educational system to provide an informed citizenry in a representative democracy.

- Jefferson's idea of the bulwark of democracy: the common man as an educated worker
- Land Ordinance of 1785 (Section 16 of each township reserved for education)
- New England leadership in education
- The role of the church
- Educational leaders
- Land grant colleges
- Landmark Supreme Court cases, 1896 and 1954
- Smith Hughes Act (1917)
- GI Bill of Rights (1944)
- National Defense Education Act (1958)
- Educationists vs. traditionists
- Civil Rights Act, 1964
- Educational reform movements, 1980s

33. A course should stress the role of ethnic minorities and immigrants and their unique contributions to American character and values.

- Motives and characteristics of immigrants
- Reception of immigrants by the United States
- Waves of immigration in the nineteenth and twentieth centuries
- Responses of the United States to its varied populations
- Contributions from diverse cultural, racial, and religious groups to social, cultural, economic, and political aspects of the American character

34. A course should include examples of the testing and refining of the American character in times of crisis.

- Wartime
- Economic depressions
- Earthquakes
- Drought and Dust Bowl
- Crises in national leadership: disputed elections, assassinations, impeachment, resignation
- Civil Rights Movement
- Responsibilities of world leadership; Middle East, Central America
- National and international fiscal crises

35. A course should recognize character and citizenship values in the historical development of American democracy.

- Adherence to the principle that a well-functioning society depends upon mutual honesty, integrity, and fair play
- Respect for both individual and public property
- Recognition that the success of a democracy depends upon individual knowledge, insistence upon one's political rights, and the obligation to exercise those rights
- Respect for and support of the democratic political structure of the American society, combined with awareness of the need to remedy society's weaknesses and outmoded rules by legal means
- The beliefs in individual freedom, equality before the law, and the worth and dignity of the individual
- An appreciation for our American heritage and the rights and privileges guaranteed by the U.S. Constitution
- Recognition of individuals, groups, societies, and nations as interdependent members of large social environments
- An understanding of similarities and differences in order to respect the rights of individuals with varying abilities from all social classes, races, religions, age groups, and sexes
- An ability to examine controversial public issues openly using the most rigorous intellectual standards in investigating, presenting, interpreting, and discussing facts and ideas relevant to the issue under study

36. A course should recognize the importance of individual leadership, creativity, and genius or political power in shaping the American tradition, as well as the impact of the efforts of significant men and women.

- The impact of character, personality, social background, and upbringing on the contributions and achievements, as well as the limitations and failures, of notable people in public life
- The relationship between specific historical changes and the influence of initiative, courage, or creative action on the part of notable individuals
- The relationship between social, racial, or ethnic status and the individual contributions or achievements of women or members of minority groups
- The special achievements of individuals in the arts, the sciences, and religious life, as well as in the political, social, and military spheres

Following are examples of names that could be included in a district-compiled list of names:

Abigail Adams
Jane Adams
John Adams
John Quincy Adams
Sam Adams
Susan B. Anthony
Benedict Arnold
Vasco N. Balboa
Alexander Graham Bell
Daniel Boone
John Wilkes Booth
John Brown
Andrew Carnegie
George Washington Carver
Winston Churchill
George Rogers Clark
Henry Clay
Christopher Columbus
Hernando Cortez
Jefferson Davis
Eugene V. Debs
Frederick Douglass
Thomas Alva Edison
Albert Einstein
Dwight D. Eisenhower
Leif Ericsson
Henry Ford
Benjamin Franklin
Ulysses S. Grant
Alexander Hamilton
John Hancock
Patrick Henry
Adolph Hitler
Herbert Hoover
Sam Houston
Henry Hudson
Andrew Jackson
Thomas Jefferson
John F. Kennedy
Martin Luther King
Robert E. Lee
Meriwether Lewis
Abraham Lincoln
James Madison
Horace Mann
Douglas McArthur
James Monroe
Benito Mussolini
Richard M. Nixon
Thomas Paine
Queen Isabella
Walter Reuther
Paul Revere
John D. Rockefeller
Franklin D. Roosevelt
Theodore Roosevelt
Betsy Ross
Sacajawea
Sitting Bull
Joseph Stalin
Harriet Beecher Stowe
Harry S Truman
Harriet Tubman
Mark Twain
Bocker T. Washington
George Washington
Walt Whitman
Woodrow Wilson
John Winthrop
Wilbur and Orville Wright

E. SKILLS

37. A course should provide opportunities for students to develop basic, creative and critical thinking, and interpersonal or social participation skills.

*Refer to pages 9-11 of the Organization and Format Section for essentials of these skill areas.

IMPORTANT CHRONOLOGICAL ELEMENTS

A. Before Columbus: the geographical setting and the first Americans

- Climate, topography, soils, minerals, water, flora, and fauna
- American Indians: probable origins and migratory routes
- Amerindian tribes, nations, and material culture
- Indian contributions, innovations, settlement patterns, and livelihoods

B. The age of exploration (to c. 1600)

- Vikings: other possible pre-Columbian explorers
- Isabella and Columbus and the origins of Spain's empire in America
- English exploration and claims
- Other European explorers and impact on the development of colonial empires

C. European colonies and the early colonial rivalries (c. 1580-1700)

- English colonization
- French, Dutch, Spanish, and Swedish colonies
- Mercantilism, English navigation laws, and early colonial warfare
- Expulsion of the Dutch from the colonies and the carrying trade
- The beginnings of our American government: Magna Carta and the Mayflower compact
- Utilization of the Trade Winds; and resource exploitation in colonial lands

D. Development and maturity of the English colonies (c. 1700-1763)

- New England colonies: patterns of development
- Middle colonies: patterns of development
- Southern colonies: patterns of development
- The colonial frontier
- Seven Years' War against France and triumph of England's colonial system
- Development of regionalism, regional identity, and regional tensions

E. Post-war controversies and the American Revolution (c. 1763-1783)

- The seeds of revolt: parliamentary acts for enforcement of the British colonial system (from Stamp Act to Coercive Acts)
- Declaration of Independence, revolution, and Peace of Paris
- Initiating self-government: the Continental Congress and state governments

F. A new nation (c. 1781-1800)

- The Articles of Confederation and the so-called "Critical Period"
- Toward a federal union: the struggles over framing and ratification of the Constitution; the Federalist Papers
- Washington's administration: formative structure and precedents
- Washington, Hamilton, and Jefferson and the foundations of political alliances and party government
- John Adams' administration: foreign problems and intensified party rivalries
- First ten amendments; Bill of Rights

G. Triumph of the Democratic Republicans under Jefferson, Madison, and Monroe (c. 1800-1824)

- A nation of farmers and the geographical aspects of an agricultural nation
- The Louisiana Purchase; new frontier perception
- Judicial nationalism: John Marshall and landmark Supreme Court cases
- European entanglements and attempts at isolation: embargo acts and the War of 1812
- Era of Good Feelings: the Anti-Federalists adopt much of the Federalist program
- The Missouri Compromise
- The Monroe Doctrine

H. The age of Jackson (1824-1840)

- Crisis in leadership: the disputed election and the J. Q. Adams presidency
- Heightening sectional issues: slavery, tariff, internal improvements, the National Bank, and land policy
- Democracy in Jackson's time: the increasing political voice of the common people
- Indian removal: the "Trail of Tears"
- Farm, factory, trade, and the expanded importance of economic geography
- Social ferment: literature, arts, philanthropy, and reform movements

I. The nation looks westward: nationalism and Manifest Destiny (1820s-1850)

- o Far western trade by sea and land
- o President Polk's expansionist platform
- o Acquisition of Texas and Oregon and new settlement horizons
- o The Mexican War: acquiring California and the Mexican Cession
- o California Gold Rush and statehood; major population shifts and transportation innovations

J. Sectionalism, secession, and the Civil War (c. 1850-1865)

- o Legacy of the Compromise of 1850: the Fugitive Slave Law and the Underground Railroad
- o Kansas-Nebraska and the slavery expansion controversy
- o Secession: the Confederate States of America
- o The Civil War; Lincoln's vision of the war and its objectives; the surrender of Lee
- o Regional identities and tensions caused by Civil War

K. Aftermath of the war and the emergence of modern America (c. 1865-1900)

- o Civil rights legislation and amendments
- o Economic exploitation and political reconstruction of the South
- o Crises in the presidency: impeachment of Andrew Johnson and the disputed election of 1876-77
- o Reemergence of southern white supremacy: black codes, voter intimidation, and "Jim Crow" laws
- o The political phenomenon of the "Solid South"
- o Purchase of Alaska and the second west coast gold rush
- o Completing the conquest of the West: dispossessing the Indian, building the transcontinental railroads, mining, ranching, and land settlement; the development of new, arid land settlement patterns
- o Mechanization of agriculture
- o Industrial development
- o Rise of the city and the upswing in rural to urban migration
- o The "new" immigration and the rapid growth of Atlantic seaboard cities
- o Political corruption
- o The role of the labor movement

L. The new Manifest Destiny and the rise of the United States as a world power (c. 1880-1918)

- o Foreign markets, maritime trade, and the steel navy
- o Territorial ambitions and the Spanish American War
- o The Panama Canal and the new linkage of the West and East
- o World War I: neutrality and intervention

M. The era of reform (c. 1898-1917)

- Political reform: national, state, and local
- Progressive attempts to curb economic and social abuses: trust-busting and regulation and Pure Food and Drug legislation
- The Square Deal of Theodore Roosevelt
- The New Freedom of Woodrow Wilson

N. Post-war prosperity (c. 1918-1929)

- Women's suffrage: the Nineteenth Amendment
- Prohibition
- The automotive age: technical and social revolution; increased migration to the cities
- Isolationism
- The bull market and the age of business
- "Normalcy" and the Harding scandals
- Overspeculation; the crash of October 1929

O. The Great Depression (1929-1939)

- The worst depression in our country's history
- F. D. Roosevelt's New Deal: relief, recovery, and reform
- The tenacity of the depression: the Dust Bowl as a combination of natural and human causation
- The second New Deal
- Roosevelt and the Supreme Court
- War clouds

P. From neutrality to global war (c. 1930-1945)

- Legacy of World War I: the isolationist background
- Neutrality Acts of the 1930s
- Pro-Allied involvement, 1939-1941
- Pearl Harbor, December 7, 1941
- Internment of Japanese-Americans
- The "miracle" of American production
- The war in Europe: the "Get Hitler First" strategy and campaigns
- The Holocaust, the systematic attempt to annihilate the Jewish people
- War in the Pacific
- Dawn of the nuclear age: Hiroshima and Nagasaki

Q. The post-war era: peacetime conversions and the Cold War (c. 1945-1964)

- The founding of the United Nations
- Labor-management strife, adjustments, and legislation
- Unprecedented foreign aid: Marshall Plan and other aid programs
- Containment-of-Communism policies: Truman Doctrine, NATO, and military involvement in Korea
- The end of colonialism and the emerging independent nations
- Erosion of civil rights: the McCarthy era

- American migration to the suburbs
- Progress in civil rights: integration of schools (1954) and legislation (1964)
- Entering the space age
- Assassination of President Kennedy
- Statehood of Alaska and Hawaii

R. Developments at home and abroad (1964-1974)

- Military commitments in Vietnam
- Antiwar protests and the cultural revolution
- Nixon's rapprochement policy with China and Russia
- Withdrawal from Vietnam
- Earth Day, 1970, and the political use of the environment
- Washington: Watergate and the resignation of Richard Nixon
- Steady movement of Americans toward the sunbelt states

S. The contemporary scene (1974-present)

- Role of political parties
- Progress toward women's equality
- Developments in the space and computer age
- The continuing role of the environment as a prime social concern
- The price of world leadership: continued cold war and defense spending
- High standard of living: another area of world leadership
- Economic challenges: inflation, high interest rates, the soaring national debt, taxation dilemmas, and spiraling costs of social security and health care
- Foreign competition, dependence on foreign oil, and transnational economic development; effect on U.S. living standards

WORLD HISTORY, CULTURE, AND GEOGRAPHY

The scope and complexity of the subject matter available for studying World History, Culture, and Geography suggest that there may be a variety in approach and structure. Individual teachers have particular interests, varied backgrounds, and different areas of expertise which influence their choices of emphases. Student demography also will affect the perspectives that local districts and teachers choose. For these reasons, the combinations of sweep and concentration for such a course will be varied.

For the purpose of teaching history, a course should follow a chronological plan, with study generally moving from the past to the present. It is vital that students gain an understanding of the flow of history, the dynamics of change, and the chronological links between the past and the present. Since it is not possible to devise a detailed framework of periodization encompassing the entire human community except at a very high level of generalization, a course must to some degree take up the histories of major civilizations, cultures, and world regions one at a time. However, study of major lines of development within the principal civilizations should be a leading aim of the course. However, a course in World History, Culture, and Geography, if it is to live up to its title, should strive to illuminate the cultural, economic, geographic, and political interactions of peoples and cultures over time. Only by keeping this in sight will students grasp the deep historical roots of contemporary global interdependence. It is imperative that a course avoid rigid compartmentalizing of the historical chronologies of either the West or the other major civilizations. Students should not, to quote the anthropologist Eric Wolf, develop a historical perception of the world "as a global pool hall in which the entities spin off each other like so many hard and round billiard balls."

In this document, the section on Prerequisites lists specific knowledge that students should already have before they begin a course in World History, Culture, and Geography. This is followed in Part II by 22 model curriculum standards with which curriculum planners and evaluators should compare their programs. Part III describes a chronological model with a list of topics which comprise a course structure compatible with the standards themselves.

The outline of historical periods given in the chronology of Part III envisions a primarily historical framework which lends itself to the addition of major cultural studies and geographical understandings. Such a cultural and geographic infusion should be carefully plotted and provided for, particularly in a course so crowded with potential content in several disciplines.

It is pedagogically indefensible to skim superficially over the enormous potential subject matter of this course. Students will fail to grasp the significance of anything. On the other hand, it is clearly impossible to go into considerable depth in all content areas. The in-depth studies must be carefully chosen in terms of both time and place to maximize the deep understandings that can be transferred to other portions of the course which must be handled in much less depth.

It is expected that districts and teachers will use these standards, keeping in mind the following essential goals for the course:

1. Historical goals

   - To show the web of relationship of the past to the present
   - To examine various sources of historical data
   - To demonstrate the fact of global interdependence
   - To appreciate the nature, rates, and implications of change

2. Cultural goals

   - To compare the forms of basic institutions in different cultures
   - To grasp the varied artistic expressions in different cultures
   - To understand the contribution of individual persons to their respective cultures and to the world
   - To discern the origins of many features of our own culture

3. Geographic goals

   - To better understand and employ the tools of geography, such as the effective use of maps, aerial models, and geographical models
   - To comprehend the physical and cultural characteristics of various regions of the world
   - To appreciate the complex interactions of peoples with their environments
   - To evaluate the effects of the human alteration of the physical environment

It is expected that district-level plans for this course will include a variety of resources and teaching strategies to give students as much direct contact with artifacts, primary sources, and authentic art as is possible. They should also include strategies to implement the broad goals of knowledge, skills (including higher order thinking skills), values, and social participation.

I. PREREQUISITES

Upon entering the high school study of world history, culture, and geography, the student should already know:

1. The location of continents, major bodies of water, leading nations, and major cities

2. Major epochs or eras of human history

3. The way in which years and centuries are numbered for the identification of historical time

4. Some sources of information for the geographer, the historian, and the anthropologist

5. The meaning of culture and its scope, as indicated by technology, institutions, behavior, and beliefs

II. MODEL CURRICULUM STANDARDS

1. A course should enable students to understand the chronological flow of events, the dynamics of change, and the critical links between past and present. This emphasis on chronology should not result in an endless chronicle of dates, names, and events, but rather in the opportunity to appreciate the significance of time, sequence, and the relationships that these create. (Refer to the outline of periods and topics starting on page HS-37.)

2. A course should be worldwide in scope, including Western, Middle Eastern, Asian, African, and Native American cultures and civilizations. This is essential to allow students to grasp the deep historical roots of contemporary global interdependence.

3. A course should give special emphasis to the role of Western civilization in order that students gain a greater awareness of (a) the global political, military, and economic dominance of the West in the past two centuries; (b) connections between contemporary American society and the development of Western civilization; and (c) an enduring appreciation of Western political and cultural achievements. The course should strive, however, to present the history of the West in a world context, stressing the developing interrelations between Western societies and other peoples. Western history and world history are not synonymous.

4. While a course must of necessity take up the development of major civilizations and regions one at a time and follow primary lines of development within principal civilizations, it should emphasize and illuminate the cultural, economic, and political interactions of peoples and cultures over time. It should avoid rigid compartmentalizing of historical chronologies of either the West or the other major civilizations.

5. A course should introduce students to the discipline of history and the social sciences. It should show how historians and social scientists sift evidence to arrive at an approximation of truth; and it should give students an understanding of analytical concepts with which they can more effectively interpret, compare, criticize, and question the important issues of both the past and the present. The analytical and comparative study of selected primary documents should be an important part of this process.

6. A course should develop the student's knowledge of physical and place-name geography and encourage relation of that knowledge to specific historical or contemporary events and conditions. Students should be encouraged to identify the major mountain ranges, arid regions, rivers, seas, islands, straits, etc. to show how they have affected the course of history and development in various periods.

7. A course should emphasize the relationships among cultures, topography, climate, soils, etc., and historical development, notably the effect of specific geographical features, both negative and positive, on human communications and contact, and on economic productivity.

8. A course should include the characteristics of the fundamental types of human society: gathering and hunting, horticultural, pastoral, agricultural, and industrial. It should demonstrate how these basic forms of organization differ from one another even as they satisfy similar and essential human, social, economic, political, cultural, and spiritual needs.

9. A course should introduce students to the principal teachings and practices of the major world religions, primarily Christianity (both Western and Orthodox), Buddhism, Confucianism, Islam, Judaism, and Hinduism. It should show how religious and moral teachings have been used historically to validate prevailing political and social orders as well as to provide ideologies for protest and revolt. It should also point up the contrasts between traditional belief systems and the secularism or rational materialism of modern times.

10. A course should emphasize the characteristics of urban society and the role of cities in history in terms of their radiating political, social, economic, and cultural influences, as well as their differing institutional patterns which give varying status to palaces, markets, temples, and centers of learning.

11. A course should define many of the varieties of government and political order in the world. In particular, it should make students familiar with such terms as: autocracy, bureaucracy, city-state, colony, constitution, democracy, dictatorship, divine monarchy, empire, feudalism, monarchy, nation, nationalism, oligarchy, republic, sovereignty, state, theocracy, totalitarianism, and tribe.

12. A course should indicate the varieties of social order in historical contexts. Changing relationships among classes and the significance of families in various forms of social order should be stressed. Students should understand such terms as aristocracy, caste, class, elite, ethnic group, middle class, nobility, race, serfdom, and slavery in the contexts of the cultures and periods studied.

13. A course should emphasize the importance of regional and long distance trade in the development of states and civilizations. Traders and trade routes should be identified as carriers of intellectual and technological innovations as well as goods.

14. A course should include consideration of scientific, technological, and philosophical innovations. Here students need to be aware of various examples of the effects of inventions, discoveries, and new thought on the exercise of power in human history, as well as the impact of these developments on demographic change, transportation and communication, moral and social attitudes, and everyday life.

15. A course should trace the growth of the modern world economy and should consider both capitalism and its critics. Students should be familiar with such terms as corporation, factory system, free trade, capitalism, communism, industrialism, joint stock company, market system, mercantilism, and socialism.

16. A course should give emphasis to the importance of aesthetic values and expression as formative influences on and reflections of the moral, political, and social order. Frequent opportunities should be provided for students to see how the visual arts, architecture, the performing arts, and literature interact with moral attitudes, politics, and religion.

17. A course should indicate the role of cultural perspectives, such as ethnocentrism, xenophobia, and racism, in the historical development of interrelationships among peoples and cultures. This study should include consideration of the treatment of both minority populations and strangers, as well as attitudes toward foreign states and cultures.

18. A course should examine the social, economic, legal, and moral position of women in traditional societies, the major civilized traditions, and in various contemporary cultures. It should encourage the appreciation of changes in the role of women in society, comparing various civilizations and states over time.

19. A course should treat the various and changing definitions of human freedom in order to create a background for the appreciation of modern democratic values in comparison to other political ideologies, including totalitarianism and dictatorships.

20. A course should provide some understanding of different ideas about change. Concepts such as decline, progress, diffusion, cyclical alternation, and revolutionary advance should be considered and related to specific examples.

21. A course should provide opportunities for students to develop basic, creative and critical thinking, and interpersonal or social participation skills. Refer to pages 9-11 of the Organization and Format Section for essentials of these skill areas.

22. A course should give ample attention to the importance of individual leadership, creativity, and genius or political power in shaping the development of humankind. The impact of character, personality, and personal background on the contributions or achievements, as well as the limitations or failures, of notable individuals in world history should be considered. The relationship between specific changes and the influence of initiative, courage, or creative action on the part of individuals should also be stressed. The course should give students an appreciation of the special achievements of individuals in the arts, the sciences, and religious life, as well as in the political, social, and military spheres of world history.

Following are examples of names that could be included in a district-compiled list of names:

Abraham
Alexander the Great
Mark Antony
Aristotle
Ludwig von Beethoven
Count Otto von Bismarck
Gautama Buddha
Augustus Caesar
Julius Caesar
John Calvin
Charlemagne
Chiang Kai-shek
Chou En-lai
Winston Churchill
Cleopatra
Christopher Columbus
Confucius
Nicolaus Copernicus
Hernando Cortez
Oliver Cromwell
Charles Darwin
Benjamin Disraeli
Sir Francis Drake
Albert Einstein
Elizabeth I
Erasmus
Frederick the Great
Galileo
Mahatma Gandhi
Gutenberg
Hammurabi
Hannibal
Henry VIII
Emperor Hirohito
Adolph Hitler
Ho Chi Minh
Homer
Jesus
Joan of Arc
Genghis Khan
V. Lenin
John Locke
Louis XIV
Martin Luther
Machiavelli
Ferdinand Magellan
Mao Tse-tung
Karl Marx
Michelangelo
Mohammed
Moses
Benito Mussolini
Napoleon
Nehru
Sir Isaac Newton
Louis Pasteur
Saint Paul
Peter the Great
Plato
Marco Polo
Queen Victoria
Richelieu
William Shakespeare
Socrates
Joseph Stalin
Sun Yat Sen
Leonardo da Vinci
William the Conqueror

III. OUTLINE OF HISTORICAL PERIODS AND TOPICS

This outline represents a chronological structure for a world history, culture, and geography course. It highlights the opportunities to incorporate the foregoing model curriculum standards into a chronological progression. It also illustrates the global breadth, the opportunities for the infusion of culture and geography, and the connectedness of major civilizations which ought to characterize such a course.

Each period on this outline represents a chronological segment, and most include a short paragraph explaining the scope of that particular period. For each period, this paragraph is followed by a list of topics which suggest settings or content appropriate to the period.

The final period given, contemporary cultures, is an opportunity for students to look at key cultures today, stressing the fact that global interrelatedness does not eliminate cultural identity and filling in the gap of understanding which exists between history--even recent history--and the meanings of current news events. The development of a viable contemporary world view is to be achieved. A course should be designed to allow time for this final segment.

1. Origins of human society (early time to 600 B.C.)

   - The emergence of Homo sapiens
   - The development of hunting and gathering societies
   - Myths and theories of the origin of societies
   - The agricultural revolution
   - The evolution of the major river valley civilizations (i.e., Sumerian, Egyptian, Syrian)
   - The economic and social impact of metallurgy, first bronze, then iron
   - The impact of pastoral invaders and migrants on settled, civilized societies
   - The peopling of the Americas and the development of agricultural societies there

2. The era of classical civilizations (600 B.C. to 500 A.D.)

   By 600 B.C., the major core areas of civilization in the Eastern Hemisphere were established. The following millennium witnessed the defining of the classical styles of these civilizations, many of whose characteristics have endured to the present day.

   - The development of classical styles of civilization in the Mediterranean basin
   - The development of ethical monotheism by Jews
   - The development of classical styles of civilization in other regions:
     - Persia
     - India (Hindu and Buddhist)
     - China (Confucian)
     - East Africa (Kush and Meroe)

- The rise of major empires and their role in the development of classical cultures:

  - Greek expansion and the spread of Hellenism under Alexander
  - Roman Empire
  - Persian Empire
  - Mauryian Empire of India
  - Han Empire of China

- The expansion of Christianity, Buddhism, and Hinduism
- The spread of iron in Africa and the development of states
- Long distance trade and communication in the Mediterranean basin, the Indian Ocean, and along the "Silk Road"
- The invasions of pastoral nomads and their impact on major civilizations
- New World civilizations (including South and Middle America)

3. The era of hemispheric interaction (500 to 1500 A.D.)

In the period centering on 500 A.D., major invasions and migrations from the Central Asian steppes drastically altered the character and direction of the major civilizations. Islam emerged shortly after this time as a central force in the Eastern Hemisphere. The 500-1500 era is characterized by increasingly intense intercommunication among the civilizations of the hemisphere, involving especially the spread of Islam, the economic expansion of Sung China, the Turko-Mongol invasions, and the rise of a civilized tradition in Western Europe. This period also encompasses generally the high periods of Amerindian civilizations in the Americas.

- Byzantine civilization
- The rise and spread of Islamic civilization
- Gupta civilization in India
- The commercial and urban expansion of China under the Tang and Sung dynasties
- The defining of Japanese civilization
- The rise of civilization in Western Europe

  - Agricultural and population growth
  - Development of towns and trade
  - Expansion of Christian culture
  - Social institutions of feudalism, manorialism, papacy, centralized states
  - Significant role of exploration and long distance trade in developing a new world sense

- The development of large-scale states in Africa and their relationship to long distance trade and the expansion of Islam
- The Mongol invasions and their impact on the major civilizations
- Trade and communication across Europe, Asia, and Africa

  - Expansion of Italian trade in the Mediterranean and Asia (Marco Polo)
  - Trade of Muslim peoples
  - Expansion of Chinese trade (Ming voyages)

- The Black Death as a hemispheric catastrophe
- The decline of Mayan civilization and the rise and collapse of the Peruvian and Aztec empires in America

4. The age of global convergence (1500 to 1650 A.D.)

The European overseas voyages resulted in the linking of the Eastern and Western Hemispheres and put all major world areas in contact with one another. The demographic, cultural, and economic consequences of this event for the peoples around the world were monumental. The decades around 1500 witnessed a new surge of military and cultural power in the Muslim lands between the Middle East and India. The Amerindian civilizations were destroyed. From the beginning of this period, Europe embarked upon several centuries of unprecedented innovation and expansion.

- Portuguese and Spanish voyages and the linking of the hemispheres
- The biological, cultural, and demographic consequences of the global link-up
- The encounter between Europeans and Native American peoples
- The dynamics of European civilization

  - The Renaissance
  - The religious crisis of the Reformation
  - The growth of capitalism
  - The rise of nation-states
  - The beginnings of modern science
  - Continuing development of agricultural productivity

- The expansion of Islamic military power and the cultural achievements of the Ottoman, Safavid, and Mughul empires
- The Ming Age in China
- The Ashikaga and Tokugawa shogunates in Japan
- European merchants, soldiers, and missionaries and their encounters with Asian and African peoples
- The evolution of the Atlantic slave trade
- The early dependence on the "Trade Winds" and their role in influencing exploration and migration

5. Emergence of the modern world (1650 to 1800 A.D.)

From about 1650, the leading characteristics of modernity began clearly to emerge: the international capitalistic economy, the exercise of unprecedented power over the physical and human environment through the use of machines, capitalistic techniques, and the principles of scientific rationalism. The ideas of the Enlightenment mobilized the energies of the population to an unprecedented degree. The states of Europe began to exert great economic and, in some places, military power over African and Asian peoples. The period also saw an upsurge of European overseas settlement in North America and other areas of the globe. The economic health and military power of the major states of Asia and Africa declined under European pressure, though the West did not appreciably challenge the major non-Western belief system.

- o The dynamics of Western civilization
    - The nation-state system and the role of geopolitics in territorial shifts
    - Capitalism, mercantilism, and economic liberalism in theory and practice
    - Scientific and technological advances
    - Enlightenment thought
    - Political revolutions in Europe and North America
    - Urbanization and social change; the increasing pace of rural to urban migration

- o The advance of European economic and military power around the globe and the responses of Asian, African, and Native American peoples
- o European migration and settlement: North America, Russian Siberia, South America, Africa
- o The Atlantic economic system (trans-Atlantic trade, African slavery, plantation economy in America)

6. The age of the Industrial Revolution (1800 to 1914 A.D.)

The industrialization of production in Europe led to a transformation of social and economic life in Western civilization. Nationalism came of age as a global ideology. Western countries achieved military and economic dominance over most of the world. Asian, African, and Latin American peoples sought effectual intellectual, religious, and political responses to the Western challenge. The social landscape of the European world, especially, began to be much more urban, industrial, and culturally diverse.

- o The Industrial Revolution and its impact on Western society
- o Nationalism, liberalism, socialism, and popular democracy in the West
- o The Romantic Movement in the arts and its impact on the thought of the West
- o Western imperialism and world economic dominance
- o Intellectual, military, and political responses of Asian and African peoples to Western power
- o The expansion of Western civilization beyond Europe: North America, Russia, and other regions of European settlement
- o The rise of Japan
- o Increasing immigration to the United States, and elsewhere
- o The origins of World War I

7. The contemporary age (1914 to the present)

World War I involved a mobilization of human resources unknown at any earlier time. The major global consequence of the war was a surge of social, political, and economic change in both Western society and elsewhere. The ideological and social underpinnings of Western colonialism began to weaken and finally collapsed. The development of new advances in technical power led mankind, for both good and ill, to growth in material prosperity and to unprecedented modification of the natural environment. Advances in communication also contributed to the rise of both mass representative democracy and totalitarian systems of social control. (The pattern of a "north-south" dichotomy in economic power and standard of living emerged, but note that not all north-south countries are developed or underdeveloped; e.g., Australia, Brazil, South Africa, Singapore.)

- World Wars I and II
- The establishment of the United Nations
- Ideologies of democracy, socialism, communism, and fascism
- Rise of dictatorships
- Social change and nationalism in Africa, Asia, and Latin America
- Problems of global population and urban growth
- Industrial dominance of the Northern Hemisphere (Europe, United States, Soviet Union, and Japan) and the problem of underdevelopment in the Southern Hemisphere, and causes for this pattern
- The evolution of the "cold war" and the nuclear threat
- New revolutions of technical power: nuclear energy, electronics, computers, scientific agriculture, government support of scientific and technological advancement
- Twentieth century population movements and expanded human mobility
- The ecological crisis and new concerns for environmental management
- Modern scientific rationalism and its interplay with the major belief systems: Christianity, Judaism, Islam, Hinduism, and Buddhism
- Rising significance of the Pacific Basin

8. Contemporary cultures (the present)

All of the major culture areas in the world today are in significant contact one with another. Many of them have been profoundly influenced by outside contacts--particularly by contacts with Western civilization. Western culture is frequently the impetus for modernization for non-Western cultures. Rapid cultural change is a continuing factor in many areas, with a disparity between the rates of change for the material and nonmaterial components of culture. Despite rapid change and massive cultural exchanges, the major cultures have retained their own identities.

- The technology, language, and cultural institutions and beliefs of three contemporary cultures with reference to their historical roots should be analyzed and compared, drawing from three contrasting cultures selected from the following:

  - Western European culture (in and out of Europe)

    - Australia/New Zealand
    - South Africa
    - Israel
    - Any specific Western European country

  - The Soviet Union
  - The Middle East and North Africa

    - Saudi Arabia
    - Israel
    - Egypt
    - Iran
    - Morocco

  - Latin America

    - Argentina
    - Brazil
    - Mexico

  - Sub-Saharan Africa

    - Nigeria
    - Kenya
    - South Africa
    - Tanzania

  - India
  - China
  - Japan

- Comparison of these three cultures with one another and with the United States today
- Comparison of the attitudes and values of these three cultures in relation to their natural environments

AMERICAN GOVERNMENT, CIVICS, AND ECONOMICS

American Government and Civics Section

The model curriculum standards listed below are meant to be the basis on which all districts in California plan their curricula in these subject areas. The standards are not meant to prescribe a specific sequence for covering course content or mandate teaching methods. Most importantly, these standards should not be taken as a limitation on how much should be taught in a course.

This section provides model curriculum standards in American Government and Civics. By the time students graduate, they should be able to understand how the American political processes work. In addition to becoming familiar with the structure and operation of the political systems in the United States, students should be able to analyze some of the conflicts that confront the nation. In so doing, students will develop the ability to be effective decision makers and responsible citizens.

Basic to a consideration of American Government is the set of beliefs inherent in its development. In the American move from colonial status to democratic self-government, the following principles emerge as the philosophical guidelines for the creation of a new mode of governance:

1. There is a common unifying core of American democratic values such as justice, truth, equality, authority, participation, respect for persons and property, and personal obligation for the public good.
2. There is a continuing tension between the unifying values and the pluralistic and individual values such as diversity, privacy, freedom, due process of law, and respect for human rights.
3. There are major ideas from which American political and legal systems have evolved.
4. There are key documents which have remained basic to an understanding of the American political and legal system. The evolution of these documents over time has had a continuing impact on the United States political and legal systems.

Through the study of American Government and Civics, students should be challenged to answer such questions as:

1. What are the basic beliefs and ideals that underlie American democracy?
2. How do our legal, governmental, and economic institutions affect public policy at the local, state, national, and international levels?
3. How can the individual participate most effectively in the American political system?

Prerequisites for American Government and Civics

Students should have:

- A general knowledge of the duties and powers of the three branches of government and the distinction among federal, state, and local levels

- A basic knowledge of the historical events and ideology that led to the formation of the United States as a nation

- An understanding of world and United States geography

- Basic and critical thinking skills related to the history-social science curriculum

MODEL CURRICULUM STANDARDS FOR AMERICAN GOVERNMENT AND CIVICS

A. ORIGINS AND BACKGROUND OF AMERICAN GOVERNMENT

1. A course should emphasize the fact that the type of government developed by the founding fathers was influenced by the prevailing values and conditions of the time.

   - Protestant ethic
   - Civic republicanism
   - Religious tolerance
   - Spirit of individualism
   - Philosophy of natural rights
   - No hereditary aristocracy
   - No established church
   - Wide ownership of land
   - Rural society

   Important documents: Declaration of Independence, Federalist Papers (especially Nos. 10 and 51), writings of Locke and Montesquieu

2. A course should show that there were principles considered essential to American government by the founding fathers.

   - Separation of powers
   - Checks and balances
   - Federalism
   - Equal representation
   - Due process
   - Popular sovereignty
   - Individual rights
   - Individual responsibilities--ethical effort, participation, and allegiance to democratic principles
   - Common shared values: religious or civic

3. A course should show that the Constitution evolved as a result of compromises: a balance of conflicting goals and values.

- Majority rule vs. minority rights
- Fear of strong executive vs. failure of Articles of Confederation
- Desire for state and local autonomy vs. need for centralized government
- Large states vs. small states
- Popular rule vs. rule by knowledgeable elite; fear of mob rule
- Individual rights vs. police powers of the state
- Potential conflict between equality and liberty

Important documents: Articles of Confederation, the Constitution

B. STRUCTURE AND OPERATION OF AMERICAN INSTITUTIONS

4. A course should include the structure, operation, and capacity for change of American institutions, such as the Congress, the presidency, the bureaucracy, the judiciary, and political parties.

a. The Congress

- Selection
- Committee system/seniority system
- Differences between House and Senate
- How a bill becomes a law: formal and informal steps
- Role of leadership, parties, constituents
- Representation

b. The presidency

- Selection
- Formal powers
- Power of persuasion
- Personality
- Cabinet/staff role
- The budget
- Foreign and domestic policy

c. The bureaucracy

- Relation to the President

    - Civil servants and political appointments

- Relation with Congress and interest groups
- Reasons for expansion
- Role of expertise
- Internal structure: departments, agencies--independent, regulatory, and enforcement agencies
- Influence over policy

d. The judiciary

- o Structure of federal and lower court systems: U.S. Supreme Court, federal courts, state courts, municipal courts
- o Jurisdiction of courts
- o Participants in the legal process: judges, lawyers, etc.
- o Judicial review, importance of precedent
- o Judicial policymaking, norm enforcement
- o Types and structure of legal processes
    - Criminal
    - Arrest
    - Arraignment
    - Trial
    - Sentence
    - Civil
    - Filing, disclosure, trial, and judgment
- o Components of American justice
    - Adversarial system
    - Representation by counsel
    - Judicial review, importance of precedent
- o Principles of American justice
    - Due process
    - Presumption of innocence
    - Standards of proof/reasonable doubt
    - Right to appeal
- o Issues of American justice
    - Plea bargaining
    - Insanity defense
    - Corrections/death penalty
    - Judicial policymaking, norm enforcement
    - Selective enforcement
    - Court overcrowding

e. Political parties

- o Roles of political parties
- o Reasons for two-party system
- o Role of third party
- o Differences between the two parties
- o Party organizations
- o Nominations and campaigns
- o Parties in the government

> 5. A course should show that major institutions interact to produce and maintain policy. This policy process consists of integrating the views of people with different priorities, perspectives, constituencies, and terms of office.

- The formulation process: role of experts, politicians, courts, groups, and public opinion
- Coalition-building: factions/interest groups, role of money, importance of organization
- Implementation
- Maintenance and renewal: incrementalism, congressional oversight
- Overall importance of cooperation and compromise: the budget process

C. THE ROLE OF THE INDIVIDUAL IN AMERICAN GOVERNMENT

> 6. A course should show there are various social and political differences in the population that are important to political outcomes at the federal, state, and local levels.

a. The social context of American politics

- Socioeconomic status
- Race
- Sex
- Religion
- Age/generational differences
- Region

b. Cleavages in public opinion

- Party identification
- Political ideology
- How attitudes are learned, shaped, changed
    - Role of parents, peers, school, mass media
    - Importance and meaning of public opinion polls

> 7. A course should stress that there is political, civic, and social participation in a democracy.

a. Types of elections

- Primary/general
- Presidential/congressional, state/local
- Partisan/nonpartisan

b. Voting

- Historical broadening of the franchise: 15th, 19th, 24th, and 26th Amendments
- Registration laws
- Turnout rates
- Importance of voting to good government

c. Other forms of political participation

- Working for parties and candidates
- Membership in an organization

d. Other forms of civic and social participation

- de Tocqueville's view of American life
- Volunteer projects
- Community improvement activities
- Litigation
- Crime prevention

D. CIVIL LIBERTIES AND CIVIL RIGHTS

8. A course should emphasize that all citizens should be familiar with the Bill of Rights in a historical and contemporary setting, the amendment process, and the role of court interpretation and precedent in its evolution.

- Freedom of speech: invasion of privacy, breach of the peace, public safety, and symbolic opposition to government policy
- Freedom of the press: revealing sources; obscenity/pornography; and libel, especially of public figures
- Right of assembly: marches, rallies; public vs. private property
- Freedom of religion/establishment of religion
- Rights of the accused and criminal due process: Miranda rights, exclusionary rule, death penalty
- Protection against discrimination: voting, education, housing, employment

9. A course should show that there are constant tensions between the desire for individual freedom, the necessity for individual ethical behavior, the will of the majority, the need for public order, and the relation of these tensions to the major contemporary domestic issues.

- Crime
- Race and sex discrimination
- Eminent Domain
- Tax paying
- Military service
- Compulsory schooling
- First and Fifth Amendment limitations
- Limitations on government

E. FEDERAL, STATE, AND LOCAL GOVERNMENT

10. A course should show that similarities and differences exist between the structure and operation of federal governmental institutions and the institutions at the state and local levels, using California to illustrate.

- Governors, constitutional officers, state legislatures, state and local agencies
- Specific types and functions of local agencies
- Distinction between county and city governments
- Types of city government
- Principle and protocol of "Home Rule"
- Federal, state, and municipal court systems and jurisdiction
- Law enforcement and corrections
- Access of citizens to federal, state, and local government

11. A course should show that federal, state, and local governments each dominate different major policy areas.

- Education
- Domestic security/crime
- Taxes

12. A course should show that there is a close relationship between the federal government and state and local governments.

- Reserve powers (10th Amendment)
- Incorporation (14th Amendment)
- Areas of jurisdictional conflict: civil rights and coastal or inland water policy
- Areas of cooperation: grants-in-aid/revenue sharing and commerce
- Consequences of local majorities differing from national majorities: federal vs. local courts andnland water policy
- Areas of cooperation: grants-in-aid/revenue sharing and commerce
- Consequences of local majorities differing from national majorities: federal vs. local courts and "community standards" policy

13. A course should show that federal, state, and municipal legal systems manage a variety of conflict among individuals, groups, and institutions.

- Criminal matters, procedures, and connections
- Civil matters, procedures, and remedies: torts, contracts
- Family law: marriage, divorce, rights of children
- Juvenile law

14. A course should show that initiatives, referenda, and recall illustrate direct democracy.

- Origins in Progressive movement
- Frequency of use, types of issues involved
- Role of interest groups, money, and media at national, state, and local levels
- Comparison with representative government: pros and cons of each

F. THE UNITED STATES AND THE WORLD

15. A course should consider the changes in national policy, from insulation to world leadership.

- Capacity to stay aloof from foreign entanglements
- 1900-1914, moving into world scene: Caribbean, Central America
- World War II, United Nations, and world leadership: human rights
- How the institutions have responded to the need for defense, negotiations, and privacy
- Examples of public policy issues: CIA operations, undeclared wars, Korea, Vietnam, Central America, etc.

16. A course should show that there was a continuing post-war preoccupation with security that influenced both domestic and foreign policy.

- Sputnik, space race, and National Defense Education Act
- Deterrence
- Containment
- Guns vs. butter
- Anti-communism and civil liberties
- President and Congress
- Defense budget
- The arms control debates
- The case of the Middle East
- Vietnam
- Central America
- Immigration policy

G. TAKING STOCK: AN EVALUATION OF CONTEMPORARY AMERICAN GOVERNMENT

17. A course should provide opportunities for students to analyze our governmental system in light of contemporary domestic and international issues.

- Abuse of power/upset in balance of power: Watergate and the presidency, the War Powers Act and the legislature, activist courts, and cycles in presidential and congressional domination
- Changing role of political parties
- Increased role of the media, single interest groups
- Increasing costs for social programs and national defense
- Role of the United States as a world power--changing policies toward other nations
- Reappraisal of the Constitution vis-a-vis present-day government
- Immigration and demographic changes

18. A course should provide opportunities to compare the American government with other contemporary forms of government based on specific criteria.

- Structure of government
  - Functions: legislative, executive, judicial
  - Formal decision-making process
  - Informal decision making
  - Selection of leaders
- Comparison of goals
  - Equality before the law
  - Economic philosophy
  - Standard of living
  - Role of the family
  - Extent of public education
  - Role of labor
  - Protection against abuse of power
  - Freedom and individual rights
  - Role of public opinion
  - Shaping public opinion
  - Military establishment
  - Equality of results
  - Common purpose
- Present-day norms in government
  - Preponderance of nondemocratic governments
  - Incidence of totalitarian governments
  - Challenges of maintaining a democracy

H. SKILLS

19. A course should provide opportunities for students to develop basic, creative and critical thinking, and interpersonal or social participation skills. Refer to pages 9-11 of the Organization and Format Section for essentials of these skill areas.

Economics Section

Economics is the study of how our finite resources are used to satisfy wants. Most economic problems arise from the fact that there is a limited amount of a desired resource. Economists study how the goods and services we demand get produced and how they are distributed.

The model curriculum standards that follow describe and define curriculum content which will enable students to understand the principles of economics and of our economic system. They should then compare our system to those of other countries and make reasoned judgments about economic questions. These include matters of economic policy, as well as narrower, but significant, personal economic questions.

In order to achieve this basic understanding, students should master the fundamental economic concepts, appreciate how the principal concepts of economics relate to each other, and understand the structure of economic systems.

The model curriculum standards are enclosed in boxes. The terms below them are useful in understanding the standards, and the activities are offered to assist the teacher in developing these terms and concepts in the classroom.

Philosophy and Prerequisites for Economics

Students should have:

- * An ability to read and understand charts and graphs
- * A capacity to understand the nature of resources and the human interest in acquisition of goods and services
- * A basic familiarity with institutions of our economic system

MODEL CURRICULUM STANDARDS FOR ECONOMICS

1. A course should demonstrate that the study of economics requires the understanding of certain fundamental concepts and terms. Among these are the terms with definitions that appear in the Glossary at the end of this section.

2. A course should include a study of the tools of analysis, such as charts, graphs, statistics, and marginal analysis.

3. A course should show that economists measure economic performance by using certain economic indicators.

- o National Income Accounting
- o Gross National Product (G.N.P.)
- o Consumer Price Indexing
- o Inflation
- o Measurements of unemployment

Activities:

- * Discuss unemployment and how it differs between population groups, depending on age, sex, and race.
- * Analyze the history of inflation in the United States since 1973.
- * Compare the inflation rates among countries, i.e., Mexico, Switzerland, Brazil, Japan, and the United States; and discuss the impact of these rates on the domestic economies and world trade.
- * Show how changes in the Gross National Product (G.N.P.) measure changes in production.

4. A course should make it clear that the basic economic problem facing society is the condition of scarcity, or limitation on productive resources relative to human wants. As a result of this scarcity, choices must be made, taking account of the opportunity costs of each choice.

- o Scarcity
- o Trade-offs
- o Economic choices
- o Opportunity costs
- o Wants
- o Productive resources

Activities:

- * Discuss the trade-off between producing more consumer goods and more investment goods.
- * Review the economic history of the United States with regard to the growth in our productive resources.
- * Consider the opportunity costs of completing high school, taking a part-time job after school, or going to the movies instead of doing required homework.

5. A course should demonstrate that all societies have economic systems that enable them to make choices on what to produce, how to produce it, and for whom to produce it. The economic system of the United States relies primarily on the market to make these choices.

- o Economic systems
- o Market
- o Market economy
- o Traditional economy
- o Command economy
- o Role of government
- o Income distribution
- o Supply and demand

Activities:

- * Compare the economic system of the United State with one or more other economic systems with regard to how choices are made on what to produce, how to produce, and for whom to produce.
- * Discuss the role of the government in the largely market economy of the United States. In particular, when does the government interfere in private choices as to what to produce and for whom to produce it?
- * Compare and contrast the economy of the Rancho system operated by the Californios with that which the Anglo-Europeans brought to California after 1850.

6. A course should show that the United States has an economy characterized by certain important elements, including competition and market structure, freedom of choice, private ownership, and profit and loss.

Activities:

- * Show how competition in the computer software industry has produced lower prices, improved quality, and a larger supply.
- * Apply the concept of freedom of choice to an American's decision about where to live, what business to get into, and what products to buy. Are there any limits to these choices?
- * Explain why the opportunity to earn a profit is important in stimulating entrepreneurs to engage in new businesses.

7. A course should help students realize that all individuals should utilize economic concepts and consumer skills in their decision making in place of emotional, unreasoned judgment.

- o Scarcity
- o Opportunity cost
- o Comparison shopping
- o Budgeting: spending, borrowing, saving, investing
- o Consumer rights and responsibilities
- o Property rights and contracts

Activities:

- * Discuss how individual career choices affect life-styles.
- * Analyze a variety of individual and family budgets.
- * List resources which will assist the consumer before and after making a transaction; e.g., buying a car, renting an apartment, buying life insurance.
- * Apply a decision-making grid to a personal situation, considering various goals/criteria in relation to different alternatives.

8. A course should demonstrate that labor, agriculture, and business organizations have played major roles in the historic and contemporary development of the United States economy.

- o Forms of business organizations: corporation, partnership, proprietorship, and cooperatives
- o Labor unions

Activities:

- * Examine the relations among trade associations; e.g., AFL/CIO, Farm Bureau.
- * Discuss the role labor unions, industry, trade, and agricultural organizations play to increase the economic well-being.
- * Describe ways in which agricultural colleges and extension agencies contributed to changes in farming, agriculture, and business.

9. A course should show that the government plays a role in the United States market economy.

- o Public goods and services
- o Economic stability and full employment
- o Redistributing income to those in need
- o Correcting cases of market failure
- o Regulating the economy and establishing law and order
- o Tax policy

Activities:

- * Examine the role that the government should play in dealing with a factory which is polluting the river on which it is located.
- * Discuss the kinds of expenditures conducted by different levels of government in the United States and the sources of revenue for these expenditures.
- * Examine the history of economic stabilization in the United States from the 1930s to the present.
- * Describe the economic rationale for anti-trust laws; and give an example of their application.

10. A course should make it clear that all economies need money to facilitate specialization and the exchange of goods and services. Monetary policy which seeks to regulate the money supply is the responsibility of the Federal Reserve System.

- o Money supply
- o Financial institutions
- o Federal Reserve System
- o Monetary policy

Activities:

- * Describe the history of the U.S. Central Bank from Jefferson's time to the development of the modern Federal Reserve System.
- * Illustrate how banks can increase the money supply.
- * Discuss what the objectives of the monetary policy should be and how the Federal Reserve System can achieve these objectives.

11. A course should show that the United States economy is characterized by a system of financial institutions which intermediate between savers and borrowers.

- o Savings and borrowing; financial institutions
- o Financial intermediaries
- o Interest rate
- o Investment

Activities:

- * List financial institutions in your community, and report on the services they provide.
- * Analyze the functions of savings and loan companies, pension funds, and other financial intermediaries in the economy of the United States.
- * Have a class discussion about the resources a person must have in order to get a loan from a savings and loan company, and talk about the uses a person usually has for large loans that come from such a company.

12. A course should show that all economies are characterized by business cycles with periods of inflation, deflation, and unemployment.

- o Unemployment
- o Recession
- o Inflation
- o Business cycle

Activities:

- * Analyze how the government uses fiscal policy to reduce unemployment.
- * Discuss the causes of the Great Depression.

13. A course should illustrate that the history of the United States has been characterized by economic growth and general improvements in the standards of living.

- o Territorial expansion
- o Inventions and innovations
- o Technological improvements
- o Increase in capital stock
- o Education and training of labor force
- o Major resource discoveries

Activities:

- * Compare the economic growth experience of the United States to that of other countries, such as Japan, China, South Korea, or Nigeria.
- * Analyze how improvements in transportation and communication have contributed to United States economic expansion and growth.
- * Investigate how new factories, machinery, and assembly lines have helped the American worker produce more goods and services.
- * Describe the history of anti-trust legislation and its impact on the economy, including the Sherman Antitrust Act.

14. A course should show that international trade and the movement of people across national borders has had a major impact on the economies of the United States and the rest of the world.

- o Imports and exports
- o Balance of payments
- o Exchange rates
- o International trade
- o Immigration
- o Development of Third World nations
- o World Bank
- o International Monetary Fund (IMF)
- o Foreign investment
- o Absolute advantage and comparative advantage

Activities:

- * Examine the impact of imported cars on the automobile industry of the United States and on the American consumer.
- * Discuss the pros and cons of import quotas on foreign steel, shoes, and textiles.
- * Analyze the effect of highly trained immigrants on the United States economy.
- * Trace the effect of the high value of the U.S. dollar on the economy of California.

15. A course should show that the distribution of income in the United States is a result of an interaction of market forces and government policies.

- o Market determination of wages, rent, interest, and profit
- o Government taxes and transfer payments
- o Government regulations
- o Minimum wage laws
- o Price supports for agriculture
- o Poverty
- o Wealth and inheritances

Activities:

- * Analyze the effect of the minimum wage law on teenage employment and wage levels.
- * Discuss the impact of government tax and transfer programs on the incidence of poverty.
- * Trace the effect of the market and government policies in determining the profits of one or more industries.

16. A course should provide opportunities for students to develop basic, creative and critical thinking, and interpersonal or social participation skills. Refer to pages 9-11 of the Organization and Format Section for essentials of these skill areas.

GLOSSARY FOR ECONOMIC TERMS

- Capital: all the tools, machinery, equipment, and inventory used in the production of goods and services
- Consumption: expenditures by consumers on final goods and services
- Demand: the quantity of a good or service that consumers are willing and able to buy at a given price, all other things being equal
- Economic institutions: households, families, corporations, government agencies, banks, labor unions, cooperatives
- Economic rent: the payment to a factor in excess of what is necessary to keep it at its present occupation or use
- Economic systems: the collection of institutions, laws, activities, controlling values, and human motivations that collectively provide a framework for economic decision making
- Exchange: trading goods or services produced by people located elsewhere
- Factors of production: resource inputs used to produce goods and services; for example, land, labor, capital
- Free market: a market in which there is an absence of intervention by government and where the forces of supply and demand are allowed to operate fully
- Incentives: factors that motivate and influence human behavior
- Interdependence: decisions or events in one part of the world or in one sector of the economy affect decisions and events in other parts of the world and other sectors of the economy
- Interest: payments made for the use of borrowed money
- Investment: use of savings in a given period to increase the nation's productive capacity; includes construction of new factories, buildings, machinery, equipment, and increases in business inventory of unfinished and finished goods
- Labor: the mental and physical talents that people contribute to the production process
- Land: one of the factors of production referring to any part of natural resources, including minerals, forests, land, water resources
- Markets: institutional arrangements that enable buyers and sellers to exchange goods and services
- Money: something generally accepted as a medium of exchange

- o Opportunity cost: the foregone benefit of the next best alternative when scarce resources are used for one purpose rather than another
- o Prices: the amounts of money that people pay in exchange for a unit of a particular good or service
- o Productivity: the amount of output (goods and services) produced per unit of input (productive resources) used
- o Profit: the difference between the revenue generated from the sale of output and the full costs of producing this output
- o Savings: the amount of income that is not spent on consumption or direct taxes; savings can be undertaken by households, businesses, or governments
- o Scarcity: the condition that results from the imbalance between the relatively unlimited wants and the relatively limited resources available to satisfying those wants
- o Supply: the quantity of a resource of final good or service that will be offered for sale at a given price, all other things being equal
- o Trade-offs: accepting or choosing less of one thing to get more of something else

Model Curriculum Standards

Grades Nine Through Twelve

First Edition

Mathematics

Adopted by
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PREFACE

In 1983, the California Legislature enacted Senate Bill 813 (Chapter 498, Statutes of 1983), a far-reaching reform measure designed to improve financing, curriculum, textbooks, testing, and teacher and administrator training in the state's elementary and secondary schools. One of the central themes of SB 813 is the reestablishment of high expectations for the content that would be taught in secondary schools and for the level of effort and performance by students.

Consistent with this theme, SB 813 reinstituted statewide high school graduation requirements. Before receiving a diploma, every student must complete at least the following courses:

- English--three years
- History-Social Science--three years
- Mathematics--two years
- Science--two years
- Foreign Language; Visual and Performing Arts--one year of either
- Physical Education--two years

To assist school districts in upgrading course content, SB 813 also requires the Superintendent of Public Instruction to develop and the State Board of Education to adopt model curriculum standards for the newly mandated high school course of study. School districts are required to compare their local curriculum to the model standards at least once every three years. The full text of the Education Code Section 51226, which requires the model curriculum standards, is as follows:

> 51226. (a) The Superintendent of Public Instruction shall coordinate the development, on a cyclical basis, of model curriculum standards for the course of study required by Section 51225.3. The superintendent shall set forth these standards in terms of a wide range of specific competencies, including higher level skills, in each academic subject area. The superintendent shall review currently available textbooks in conjunction with the curriculum standards. The superintendent shall seek the advice of classroom teachers, school administrators, parents, postsecondary educators, and representatives of business and industry in developing these curriculum standards. The superintendent shall recommend policies to the State Board of Education for consideration and adoption by the board. The State Board of Education shall adopt these policies no later than January 1, 1985. However, neither the superintendent nor the board shall adopt rules or regulations for course content or methods of instruction.
>
> (b) Not less than every three years, the governing board of each school district shall compare local curriculum course content, and course sequence with the standards adopted pursuant to subdivision (a).

Development of the model curriculum standards began in early 1984 when the Superintendent of Public Instruction appointed broadly representative advisory committees in six of the mandated subject areas. (Physical education standards will be developed in early 1985.) The committees worked for more than six months, frequently consulting nationally recognized experts, to produce draft standards. The draft standards were then reviewed and critiqued by teachers and administrators from more than 80 school districts throughout the state. The results of this extensive field review were used to make final refinements to the standards.

In recognition that this is California's first effort to prepare model curriculum standards, the standards are being published in a first edition to allow for revisions, where appropriate, as they are further reviewed and used by school district personnel over the next nine months. A second edition is expected to be published early in 1986.

As specified in SB 813, the standards are a model, not a mandate. They reflect the strongest possible professional consensus about the content that every student should be exposed to before graduating from high school. Some school districts will find that their programs are already consistent with the standards; others will set them as a goal to strive towards. Whatever the results of each district's curriculum review, the Superintendent of Public Instruction and the State Board of Education hope that the standards will be of help as teachers, administrators, members of school district governing boards, and others concerned with the schools work to build a stronger, richer curriculum for all our students.

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INTRODUCTION

Mathematics is a rich academic area. Its abstractions have inherent beauty and fascination; its applications in the world are virtually unlimited. As the age of technology unfolds, the importance of mathematics is growing. To accommodate changes in the ways in which and the extent to which mathematics is used in our society, we must raise the expectations we have for our graduates. A growing percentage of jobs depend upon a person's mathematical capability. In addition to the sciences and engineering, areas such as banking, finance, merchandising, business management, and public administration require mathematical understanding far beyond the ability to compute successfully. And, while mathematics is of increased importance in the professional areas, it may well be that the rapidly expanding area of technical services will make the greatest demands on increasing the overall mathematical ability of our future graduates.

The deepened concern for mathematics education is finding expression in official documents as well as in statements by individual educational leaders. The State Board of Education's Raising Expectations in 1983 provided model graduation requirements in mathematics as well as other academic curriculum areas. The "Mathematics Framework for California Public Schools," to be published in 1985, establishes new content and instructional objectives for kindergarten through grade twelve programs. These model curriculum standards for high school programs follow from and provide elaboration of the framework's objectives.

Meeting raised expectations will require modifications and a new intensity in the entire school mathematics program. This document deals specifically with upgrading the high school program. Corresponding improvements in the kindergarten through eighth grade program are also required if a student entering high school is to be fully successful in a school program that meets the model curriculum standards. In particular, for a student's program to include the core content of these standards in two years of coursework, the minimum graduation requirement, the following prerequisites are assumed. (The listing of prerequisites is meant to indicate the approximate academic progress expected, not a complete list of competencies.)

Number

Students will have completed the study of the rational number system, including the basic operations on the set of positive and negative numbers and zero, common fractions, decimals, and terminating and repeating decimal fractions; the ordering of the rational numbers; ratio, proportion, percent as an application of ratio, percents less than 1 and greater than 100, and applications of percent; and an introduction to the irrational numbers.

Measurement

Students will use appropriate units of measure in finding perimeters, areas, and volume and will be able to convert from one unit to another within a system of measurement. Students will understand the approximate nature of measurement and will estimate appropriately.

Geometry

Students will be able to define geometric terms and symbols and identify figures and relationships between figures. They will understand transformations of the plane. They will be familiar with relationships among geometric elements, including the Pythagorean theorem. They will be able to use compass and straight-edge with proficiency.

Patterns and Functions

Students will understand function rules and use a rule to find the value of a function for a given relationship. They will graph simple functions (linear and nonlinear) in all quadrants of the coordinate plane.

Statistics and Probability

Students will be able to extract valid information from graphs, tables, and schedules and generate frequency distributions, computing mean, median, and mode. They will be able to find theoretical and empirical probabilities for simple situations of chance.

Logic

Students will be able to determine the validity of simple arguments and the equivalence of logical expressions. They will be able to perform simple deductive and inductive reasoning exercises.

Algebra

Students will be able to translate English phrases and sentences into algebraic expressions and vice versa, substitute numerical and algebraic terms for variables in algebraic expressions and use the standard order of operations to evaluate the expressions, and solve simple linear equations and inequalities.

ORGANIZATION AND FORMAT

The section on program standards contains eight briefly stated standards that apply to the high school mathematics program as a whole. They represent issues of student assessment and placement as well as characteristics that all mathematics courses should have. The section on core content contains the main body of the standards and details the instructional content desired for all high school students. The content is divided into three categories, although in the instructional program the categories should exist more as a whole than as separate. The categories are:

1. Concepts and skills

2. Problem solving

3. Applications

The interplay among these categories is described in more detail at the beginning of the section on core content.

PROGRAM STANDARDS

The curriculum itself is dealt with specifically in the section on core content. This section identifies several other characteristics important for high school mathematics programs as a whole.

1. Reinforcement of Previously Learned Concepts and Skills

Facility with mathematical operations requires continuing use. As new material is taught in high school, previously learned concepts and skills must be reinforced through repeated experiences in solving problems that require their use. The assignment of problems that require a combination of new and previously learned skills will help demonstrate and strengthen the connections between "new" and "old" material. For example, recognizing ratio or percent problems as particular applications of linear relationships reinforces both the student's understanding of the abstract concepts and his or her ability to use them.

2. Taking Advanced Courses in Mathematics

As part of raising expectations, increasing numbers of students should be encouraged to take courses beyond Algebra 1 and geometry. In particular, students who plan to enter college should be urged to take mathematics in their senior year.

3. Keeping Options Open

Not all students are prepared to take college preparatory mathematics in the ninth grade. For those students who are not, there should be an alternative that will realistically keep open the option of entering the college preparatory sequence in the tenth or eleventh grade.

4. Course Expectations

Instruction in each course, especially within the college preparatory sequence, should include complete coverage of the content planned for that course. In addition, standards of student performance should be such that more advanced courses in a sequence can be completed without extensive reteaching or review of previously taught content. Students who are unlikely to succeed in a given course under these expectations should first complete other appropriate courses.

5. Student Assessment

It is important for teachers to maintain an ongoing diagnostic assessment of student mathematical knowledge so that specific areas of difficulty are identified and reteaching is applied as needed.

6. Homework

Every student should regularly be assigned work to be done outside of class. This homework should be an integral part of the high school mathematics program. Students should understand the purpose and focus of each assignment and know that they are expected to complete each assignment to the best of their ability and on schedule. Assignments for students who master concepts and skills rapidly should be of greater depth or extent.

7. Educational Technology

Available educational technology should be incorporated into the high school program. Continuing their experience in kindergarten through eighth grade, students should use calculators routinely in solving problems. While thoughtful consideration must be given to software selection, computers should be employed at least for creating geometric displays, organization and graphing of data, simulations of real-life situations, and numerical sequences and patterns. Students should have opportunities to use computers to explore, discover, or even create mathematical relationships.

8. Applications in Other Areas

Mathematics is important in other academic disciplines as well as in everyday life. Students should have experiences that demonstrate this fact both in their mathematics courses and in a wide range of other courses. Through personal engagement, students should come to see how mathematics is applied in other disciplines such as natural science, social science, art, music, business, medicine, and law.

CORE CONTENT

In recognition of the wide range of entering students and of postsecondary possibilities, high schools generally offer several sequences of mathematics courses, with at least some degree of possible "switching" among sequences. This is clearly in the students' best interests when high expectations are maintained for all and when each student is given careful counseling.

This section deals with the core curriculum content desired for each student, regardless of the particular sequence of courses he or she takes. These goals for student learning can be reached in the two years of coursework required for graduation if the prerequisites have been met. Additional work will generally be required for students with lesser preparation.

The content of this section is laid out in three categories, each essential for an effective mathematics program: concepts and skills, problem solving, and application. While individual lessons may focus predominantly on one category, the categories are mutually supportive and should be intermeshed in each course.

1. Concepts and Skills

The core content of the high school curriculum should include major concepts and skills beyond the eighth grade prerequisites level in the entire range of high school mathematics. These concepts are identified in this document for seven strands of mathematics: number, measurement, geometry, patterns and functions, statistics and probability, logic, and algebra. In the following pages each major concept or skill is broken down into several components. To the right of each component are examples. The examples are intended to be illustrative, not definitive.

It would be desirable for most students to be able to complete most of the examples as assignments. At the same time, it should be recognized that while the same concepts and skills are contained both in the academic college preparatory courses and in the courses not assuming college entrance, the lessons in which they are presented will vary by course. The examples can be solved by students who have received less abstract, more informal instruction in the concepts and skills than is usually found in the college preparatory courses. As just one example, students in ninth grade can work with graph paper and protractors to study properties and applications of right triangles that often are assumed to be accessible only to students studying formal trigonometry in the twelfth grade.

2. Problem Solving

The mathematics program must present to students problems that utilize acquired skills and require the use of problem-solving strategies. Examples of strategies that students should employ are: estimate, look for a pattern, write an equation, guess and test, work backward, draw a picture or diagram, make a list or table, use models, act out the problem, and solve a related but simpler problem. The use of calculators and computers should also be encouraged as an essential part of the problem-solving process. Students should be encouraged to devise their own plans and explore alternate approaches to problems.

At the end of the list of concepts and skills for each strand is a set of problems. Each problem in the set requires the use of concepts and skills of the strand in ways the student may not have explicitly practiced. At the same time, each problem may be approached in a variety of ways, often ranging from a sophisticated, abstract approach to an experimental, trial-and-error approach. It should be noted that each problem included has been successfully used in some basic mathematics classes.

The first problem listed in each case includes a commentary that relates the solution of the problem to the problem-solving components of formulation, analysis, strategy selection, carrying out a solution procedure, and interpreting the solution.

3. Applications

In addition to understanding the concepts and mastering the skills of the mathematics program, students should work on practical applications. Each application should be an area of investigation which can be expected to yield a number of problems. Applications should require original thinking, reinforce mathematical skills, and involve an overlap of the content of the various strands.

There is no limit to the variety of applications. For illustrative purposes, a small collection of applications may be found in the last section of the core content. Each application includes an overview of the problem, a statement of what the students are expected to accomplish, suggested activities, a summary of the mathematics involved, and suggested extensions.

Number: Concepts and Skills

N1. Students demonstrate an understanding of signed numbers.

Examples

N1.1 Students use the number line to demonstrate addition and subtraction of signed numbers.

- o Use the number line to show that:

  $(-3) - (-7) = +4$

- o Approximate the result on the number line:

  $4.17 + (-3.98)$

- o Approximate the result on the number line:

  $(-4\frac{1}{5}) + (-3\frac{2}{5})$

Examples

N1.2 Students demonstrate and give examples of multiplication and division of signed numbers.

- o Use repeated addition to show that $4 \times (-3) = -12$
- o Develop a convincing argument to explain why the product of two negative numbers is a positive number.
- o Show as a number sentence involving multiplication: If Sam loses two pounds a week for three consecutive weeks, he has lost a total of six pounds.

Examples

N1.3 Students explain the value and uses of negative numbers.

- o Give three examples of real-life situations in which negative numbers would be useful.
- o Research the development of the Fahrenheit scale.

N2. Students extend their understanding of the real number system to include irrational numbers.

	Examples
N2.1 Students investigate irrational numbers and the need for them in the number system.	o Give a convincing argument for the need to have irrational numbers. o Use $\sqrt{4} = 2$ and $\sqrt{9} = 3$ to approximate $\sqrt{7}$. o Approximate the value of π by inscribing a circle in a square shown on a 10 x 10 grid and comparing the areas of the square and circle.
N2.2 Students locate real numbers on the number line.	o Approximate the locations of π, $\sqrt{7}$, $-\sqrt{3}$, and $2\sqrt{5}$ on a number line. o Show the graph of all real numbers between 3 and 5 on a number line. o Use the locations of 5 and -5 on the number line to explain absolute value as distance from the origin.

N3. Students understand and are able to use integral exponents.

	Examples
N3.1 Students apply mental arithmetic to perform multiplications and divisions involving powers of ten.	o Write each of the following numbers in decimal form: 3.462×10^2 $0.8723 \div 10^{-3}$ o Write the following product in scientific notation: $33{,}000 \times 0.000002$ o What number (in scientific notation) is indicated by a calculator display of 8.43219E-6? o Give an estimate of $\frac{3.62 \times 10^3}{1.703 \times 10^4}$, accurate to one digit.

Examples

N3.2 Students evaluate expressions with rational bases.

- Give the exact value of each of the following as a rational number:

  $\left(\frac{2}{3}\right)^4 \quad (0.4)^3 \quad \left(-\frac{3}{5}\right)^3$

Number: Problem Solving

1. a. Use a calculator to express $\frac{5}{17}$ as a decimal approximation. Multiply the result by 17. Is the product 5? If not, why not?

   b. Use a calculator to find an approximation of $\sqrt{5}$. Reenter the number shown on the display and square it. Is the result 5? If not, why not?

   c. A certain calculator display allows for eight digits and shows .27272727. Does it follow that the next digit of the number is a 2? Explain.

Commentary

Formulation. This is a three-part problem in which the student is asked to perform operations on the calculator and explain the result. The problem emerges when the students find that some, but not all, calculators do not display an arithmetically correct answer. The problem should be formulated around the inverse relationship and repeating decimal representation of rational numbers.

Analysis. The analysis of this problem involves thinking about what such a calculator does to the numbers it computes: it drops (does not round off) the decimal representation after a certain number of digits have been displayed.

Strategy Selection. By recording this procedure in a sort of flow diagram, the student can determine what has been dropped and why the calculator display is not correct.

Carrying Out a Solution Procedure. Routine computational skills are needed. In particular, the student must understand the decimal place-value system. Notation for repeating decimals will be useful, for example, 0.2727... or $0.\overline{27}$.

Interpreting the Solution. When students generalize their results, they may find some surprises; for example, for rational numbers with terminating decimal representation (the prime factorization of the denominator has only powers of 2 and/or 5), the calculator display is correct. Here is an opportunity to clarify the "domain" of a generalization. Have students conjecture and test a wide range of examples. The students should extend this problem to develop a process for handling computations that require more decimal places than are available on a calculator.

2. Can you find four odd numbers that add up to 21? If it is not possible to do so, explain why it is not possible.

3. Suppose five bales of hay are weighed two at a time in all possible pairings. The weights in pounds are 110, 112, 113, 114, 115, 116, 117, 118, 120, and 121. How much does each bale weigh?

4. $a^{1984} + a^{1985} = 0$. Find all real values of $\underline{a}$ for which the sentence is true.

5. Find the dimensions of three right triangles such that in each triangle the lengths of the three sides and the length of the altitude to the hypotenuse are all integers.

6. Find a four-digit whole number such that if a decimal point is placed between the hundred's digit and the ten's digit, the resulting number is the average of the two-digit whole numbers on either side of the decimal point.

Measurement: Concepts and Skills

M1. Students understand and use skills and concepts of measurement.

Examples

M1.1 Students understand and apply the relationship between the precision of measurements and the accuracy of a calculation based on the measurements.

- A meter stick is calibrated in centimeters. The width of a rectangle is measured to be 22 centimeters. What is the greatest possible error of the measurement?
- Determine the most accurate approximation possible for each of the following calculations:
  - With the use of three different measuring instruments, the three sides of a triangle are measured to be 5.7 centimeters, 12.345 centimeters, and 14.23 centimeters. What is the most accurate approximation of the perimeter of the triangle?
  - A string measured to the nearest foot to be 14 feet is used as a radius to mark off a circle on a mural. What is the circumference of the circle?
  - A square contains 60 square inches. What is the length of one side of the square?

M1.2 Students make conversions within a measurement system.

- Express a measure of 345 meters in centimeters. In kilometers.
- The length of a rope is given to be 4 yards, 2 feet. Express the length of the rope in inches.
- A pipe one inch in diameter is delivering two gallons (231 cubic inches per gallon) of water per minute. What is the rate of flow in cubic inches per second?

	Examples
M1.3 Students select and use appropriate formulas and procedures to determine a measure when a direct measurement tool is not available.	o The height of a tree is unknown. If the angle of elevation is 72° from a point 15 feet (horizontally) from the base of the tree, determine the height of the tree. o Given a stone and a beaker filled with water, select an appropriate procedure to determine the volume of the stone. o Given a right triangle and a ruler, determine the area of the triangle.

Measurement: Problem Solving

1. Cite cases where the result of a calculation involving measurement must be rounded up (for example, 8.4 inches rounded up to 9 inches) and cases where the result of a calculation must be rounded down (for example, 8 3/4 inches rounded down to 8 inches).

Commentary

Formulation. This problem requires students to think creatively and broadly about types of measurement tasks. The mathematical part of the problem lies in explaining why in some measurements one would round up and in others, down.

Analysis. To get started, the students might examine a sales tax chart and determine the rounding-off rule used in its construction. A class discussion might help students develop a list of jobs in which individuals must round off measurements.

Strategy Selection. Students should consider what the effect would be on a business that reversed or otherwise modified its rounding-off policy. In computing interest charges, a bank rounds off to the next higher penny. As a result, half of the time customers pay one cent more than they owe.

Other applications might require rounding up because one unit (a bolt, an egg, and so on) cannot be divided into parts. Warning signs, such as those showing height and weight limits for bridges, might use rounded-down numbers for safety.

Carrying Out a Solution Procedure. Students should be acquainted with the standard rule for rounding off one-half so that half the time it is rounded up and the other half down: if the preceding digit is odd, round up, otherwise, round down.

Interpreting the Solution. This problem should generate a lively discussion of consistency and fairness. Hopefully, every student will find cases different from all the others, and the diversity of examples will lead to productive discussions.

2. Describe how a ruler and some convenient tool can be used to measure

   a. the thickness of a playing card
   b. the diameter of a sphere; of a cylinder (such as a tree trunk)
   c. the distance from one corner of a room to the opposite corner
   d. the surface area of an irregularly shaped object

3. Construct a vernier scale to use with a metric ruler that will measure one-tenth of a centimeter.

4. Use wire and paper cups to make a balance scale. Given that one milliliter of water has a mass of one gram, find the masses of some small objects, such as a penny, quarter, nickel, and half dollar.

5. Show the relationship between the Fahrenheit and Celsius temperature scales by graph, by juxtaposition, and by formula. For each of these relationships, show that for a given temperature, five times forty more than the Fahrenheit reading is nine times forty more than the Celsius reading. Use this information to develop a simple process for converting from one scale to the other mentally.

Geometry: Concepts and Skills

G1. Students understand the basic postulates, theorems, and definitions of geometry.

	Examples
G1.1 Students understand and can apply the basic postulates, theorems, and definitions of Euclidean geometry.	
G1.2 Students solve problems relating to special polygons such as triangles, parallelograms, rectangles, and squares.	o In a 30°-60° right triangle, find the lengths of the other sides if the length of the hypotenuse is 10. o Find the altitude of an equilateral triangle given that the length of one side of the triangle is 8 units. o Find the distance from home plate to second base if the distance between bases is 90 feet. o Find the cross section with largest rectangular area that can be cut from a circular log of diameter 30 inches. o Find the measure of the angles of a triangle if the angle measures are in a 1:2:3 ratio.
G1.3 Students use formulas to determine the lateral area, total area, and volume of certain three-dimensional figures such as cubes, rectangular solids, spheres, cones, pyramids, and cylinders.	o How much space remains around a 12-inch diameter ball that is placed inside a cubic box with 12-inch edges? o Should an 8 1/2-by-11 inch sheet of paper be rolled lengthwise or widthwise to create the cylinder of greater volume? If the cylinder is to be covered top and bottom, which way of rolling the cylinder will give the greater surface area? Generalize to any rectangular sheet of paper.

G2. Students use compass and straightedge to perform geometric constructions.

Examples

G2.1 Students perform the basic geometric constructions.

- Perform the following constructions:
  - Copy an angle.
  - Bisect an angle.
  - Copy a line segment.
  - Bisect a line segment.
  - Construct a perpendicular to a line at a point on the line.
  - Construct a perpendicular to a line at a point outside the line.

G2.2 Students use the basic constructions to perform other specified constructions.

- Given a segment one unit in length, use the Pythagorean relation to construct a segment whose length is $\sqrt{2}$.
- Construct a polygon congruent to a given polygon.
- Construct a polygon similar to a given polygon with each side twice as long as the corresponding side of the original polygon.

G3. Students use transformations to illustrate congruence and similarity of figures and ratio and proportion to illustrate similarity.

Examples

G3.1 Students derive, intuitively, the conditions necessary for congruence.

- Using concrete figures, show how a reflection, rotation, or translation of a figure leaves it unchanged in size and shape.
- Demonstrate that the side-side-angle correspondence does not assure congruence of triangles.
- Explore congruency of polygons of any number of sides. Given a polygon of four sides, what is needed to guarantee the congruence of another quadrilateral? Five sides? Determine a generalization that would apply to a polygon of any number of sides.

Examples

G3.2 Students derive, intuitively, the conditions necessary for similarity.

- o Make a scale drawing of the classroom.
- o Give an argument to show that all equilateral triangles are similar.
- o Explore similarity of polygons of any number of sides.

G4. Students understand and are able to use the basic elements of coordinate geometry.

Examples

G4.1 Students use the distance formula to find the distance between two points.

- o Find the distance from (3,2) to (-5,7).
- o Find the distance from home plate (0,0) to second base (90,90).

G4.2 Students derive information from the graph of a line.

- o Given the graph of $3x + 2y = 12$,

  a. Determine the slope of the line.

  b. Determine the x- and y-intercepts.

  c. Locate two points on the line that have integral coordinates. Find the coordinates of the midpoint of the segment determined by the two points.

G5. Students understand and are able to use the Pythagorean theorem.

Examples

G5.1 Students follow and understand informal proof of the Pythagorean theorem.

G5.2 Students explore right triangles by applications of the Pythagorean theorem and its converse.

- o Which of the following are lengths of sides of a right triangle?

  3,4,5

  8,9,10

  8,15,17

Examples

G5.2 (continued)

- o Determine the length of the third side of a right triangle, assuming the last side listed is the longest:

  5,8,?

  6,?,10

- o A closet is two feet by three feet by eight feet. What is the length, to the nearest foot, of the longest javelin that could be stored in the closet?

G6. Students understand and are able to apply the sine, cosine, and tangent ratios in given right triangles.

Examples

G6.1 Students understand the sine, cosine, and tangent ratios.

- o State the definitions of the sine, cosine, and tangent of an angle θ in terms of the sides of a right triangle.
- o If the lengths of the hypotenuse and the longer leg of a right triangle are known, which ratio would be used to determine the measure of the smallest angle of the triangle?

G6.2 Students use the trigonometric ratios to solve right triangles.

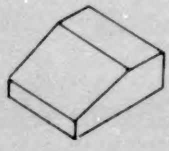
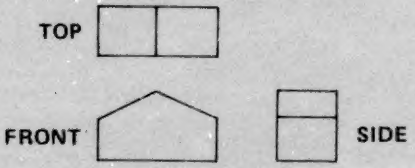
- o Given a 3,4,5 right triangle, find the measure of the smallest angle of the triangle to the nearest degree.
- o At a point 120 feet horizontally from the base of a building, the angle of elevation of the top of the building is 63°. Find the height of the building.

G7. Students are able to visualize three-dimensional objects based on two-dimensional representations.

Examples

G7.1 Students construct three-dimensional models from two-dimensional patterns.

- o Given a pattern for an icosahedron, construct an icosahedron of a different size and determine the number of vertices, edges, and faces.

		Examples
G7.2	Students construct patterns for polyhedra models.	o Given a model of an octahedron, construct a pattern to make one of a different size. o Construct at least two different patterns that will fold into a cube.
G7.3	Students explore isometric and orthographic representations of three-dimensional objects.	o Draw the orthographic projection of this object.  o Make an isometric drawing of the object represented below. 
G7.4	Students locate points in relation to x, y, and z axes.	o Locate the following points and show that they are corners of a cube: (0, -1, 3), (0, 3, 3), (0, -1, -1), (0, 3, -1), (4, -1, 3), (4, 3, 3), (4, -1, -1), (4, 3, -1).

Geometry: Problem Solving

1. Given [illegible]uare table top with each side three feet in length and pizzas twelve [illegible]hes in diameter:

   a. What is the maximum number of nonoverlapping pizzas that could be placed on the table top without any falling off? (A pizza will fall off if its center is beyond the edge of the table top.)
   b. What would be the maximum number of pizzas if the table were 6 feet x 6 feet? Would the pattern continue for a 9-foot x 9-foot table?
   c. Would the pattern change if the table were 4 1/2 feet x 2 feet?
   d. What is the minimum number of overlapping pizzas that would be required to completely cover the three-foot-square table?

Commentary

Formulation. A discussion of the assumptions that should be made to get a mathematical solution to this problem is a valuable experience. Some of these assumptions might be that the center of gravity is the same as the geometric center of each pizza, that each pizza is perfectly circular, and that the table is horizontal and flat. The problem is extended by asking for the solution when the table size is changed, suggesting that a good solution to a problem includes making a generalization that yields other solutions when the assigned values are changed. The last question in this problem presents a totally different situation since, for example, the pizzas may overlap and help hold overhanging pizzas.

Analysis. An important implication in the statement of this problem is that it is often productive to find the solution to a simple problem first, then solve harder problems, and finally generalize. Upper and lower limits on the answer might be useful in this problem. An upper limit might be defined as the area of the table plus a six-inch margin around the table for overhang, divided by the area of one pizza. A lower limit might be the area of the table divided by the area of the square that exactly contains one pizza. The statement about pizzas falling off if the center is beyond the edge of the table helps the student visualize the problem. A decision must be made about pizzas whose centers lie exactly on the edge of the table: Do they hang on?

Strategy Selection. A sketch of the problem in this case reveals some interesting possibilities: pizzas hanging over the edge, staggered rows of pizzas, and pizzas laid in rows parallel to the diagonal of the tabletop. One obvious solution strategy is making a scale model of the problem using, for example, pennies for pizzas and a square drawn on paper that is three pennies long on each side. Students should sketch the positions of the pizzas and compute the locations of the centers mathematically to be sure they lie within the perimeter of the tabletop.

Carrying Out a Solution Procedure. Trial and error is the key in this problem, but some knowledge of geometric concepts of circles is necessary. Some of the applicable concepts are the formula for the area of a circle, the collinearity of the radii of tangent circles at the point of tangency, finding the center of a circle with given radius using compass and ruler, and the Pythagorean theorem (depending on the array of pizzas).

Interpreting the Solution. A chart showing the relationship between the number of pizzas and the length of the side of the table should help students generalize the maximum number of pizzas to cover any rectangular table. The solution should be compared with the upper and lower limits or other prior estimates. A discussion should be held regarding effects that the assumptions and variables in the problem had on the solution. Another useful discussion might involve citing real situations that would require the solution of a similar problem; for example, painting round lids on an assembly line, packing fluorescent light tubes, or covering a lawn with a sprinkler system.

2. A geometric figure is enclosed by exactly 120 feet of fencing.

   a. Find the area if the enclosed figure is an equilateral triangle.
   b. Find the area if the figure is a square.
   c. Find the area if the figure is a regular hexagon.
   d. Find the area if the figure is a regular octagon.
   e. What could be said about the relative areas of two regular polygons having 12 sides and 15 sides respectively? Generalize.
   f. What is the shape of the figure that will allow the greatest area possible to be enclosed by 120 feet of fencing?

3. Divide a right triangle or an obtuse triangle into the smallest possible number of triangles, all of which must be acute.

4. The following points are connected successively to form a geometric figure on a rectangular grid: (12,2), (5,11), (3,5), (2,8), (-2,-4), (8,-5), (12,2). Find the area of the figure enclosed by these segments. Explain your solution.

5. All of the diagonals of a seven-sided regular polygon are drawn. They intersect in the interior of the polygon in 35 different points. There are obviously a great many polygons inside the seven-sided regular polygon. What is the sum of the measures of all their angles?

6. Three noncollinear points are given. Where must a fourth coplanar point be located so that the four points form a convex quadrilateral? Where must the fourth point be located so that it is not possible to form a convex quadrilateral?

7. There are ten lines in a plane, each one intersecting each of the others. No three lines pass through the same point. At how many points do the lines intersect? Into how many regions do they separate the plane?

Patterns and Functions: Concepts and Skills

P1. Students determine and extend patterns.

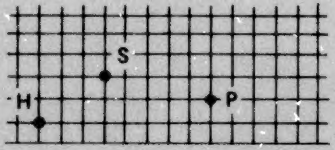
Examples

P1.1 Students find patterns in sequences of numbers.

- o Find the sum of the first two odd numbers; the first three odd numbers; the first four odd numbers, and so on. Find a formula for the sum of the first n odd numbers.

- o A man works five days and then is off two days. His wife works two days and then is off for two days. They share a weekend off on January 1st and 2nd. When will they have another weekend off together? How many such weekends will they have during the year? What is the pattern?

- o A city is laid out in blocks as shown on the grid below:



Jack's home is marked H, his school S, and his favorite pizza parlor P. Assuming that Jack cannot cut across blocks, in how many ways can he travel directly from home to school without ever backing away from school? In how many ways can he travel from school to the pizza parlor? Find a pattern.

In how many ways could Jack go from his home to school and then to the pizza parlor? Extend the pattern.

P1.2 Students find patterns in the properties of geometric figures.

- o Count the number of diagonals in polygons of 3,4,5,6, and 7 sides. Extend the pattern and give a formula for the number of diagonals in a polygon of n sides.

- o Using the fact that the sum of the measures of the angles of a triangle is 180°, find a formula for the sum of the measures of the angles of a polygon of n sides.

P2. Students understand the functional relationship between two variables.

Examples

P2.1 Students solve problems involving direct and inverse variation.

- o Multiplying a person's weight by seventeen gives an approximation for the number of calories which should be consumed daily in order to maintain one's weight. How many daily calories will be required for a 140-pound man to maintain his current weight?

- o A group of people plans to rent a condominium at Mammoth for a weekend. The total cost is $240. How much will each person pay if five people go? Six people? Eight? Ten? Derive a formula for n people.

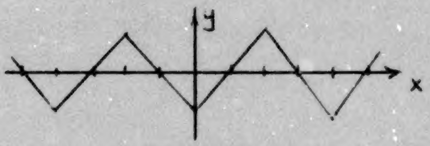
P2.2 Students graph a function based on the information given in a table or other nonalgebraic form.

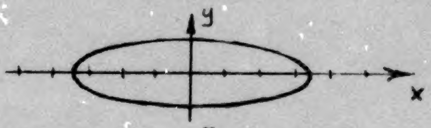
- o A postage rate chart is provided. Graph the function that shows the relation between the rate and the weight of the object (chart shows weight to nearest ounce; graph should show weight to tenth of an ounce).

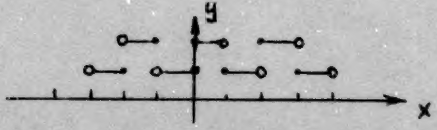
- o Charts of the population growth and the growth of food and resources of various countries are provided. For each country, show the corresponding exponential graphs of the two quantities on the same set of axes. Which country can best provide for its citizens in the future? Why?

P2.3 Students investigate various properties of functions.

- o Given the graphs of the following relations, identify those that are functions.



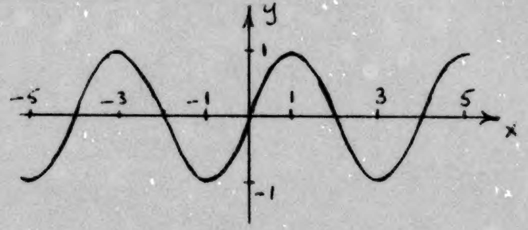


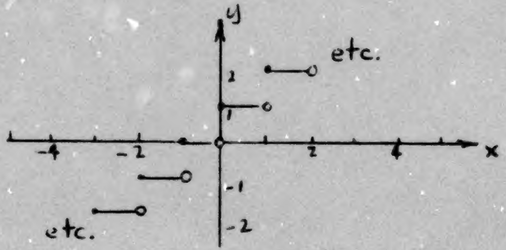


Examples

P2.3 (cont.)

- o Identify the domain and range of the following functions.





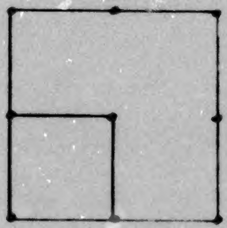
- o Experiment with the SIN, SQR, and ABS function keys on a scientific calculator to make a conjecture about the domain and range of each of these functions.
- o Using a scientific calculator, find two pairs of functions that are inverses of each other.

Patterns and Functions: Problem Solving

1. Picture and develop algebraic formulas for triangular, square, pentagonal, and hexagonal figurate numbers. From the data developed, state a formula that will produce any term in any polygonal sequence.

Commentary

Formulation. First, students must understand how they can systematically generate geometric patterns that allow them to identify figurate numbers. Consider the figure below, the beginning patterns for generating square figurate numbers.



Let the point in the lower left be the original point, representing the number 1 in the sequence (always the first number). The second number in the sequence is the sum of the points in the square in the lower left, which consists of the original plus 3 new points. The next number in the sequence is found by counting the total number of points in the expanded figure, 1 + 3 already there plus 5 new points, a total of nine. The next number in the sequence is determined by the total number of points in the figure made by extending the square again.

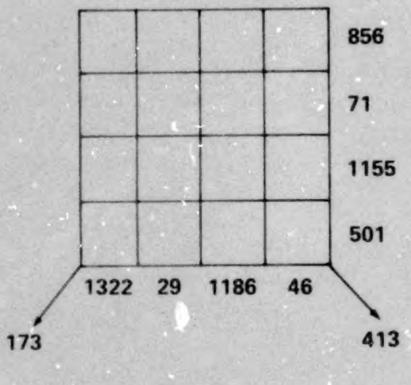
Analysis. Students will see that they will be finding terms in the sequences based on the numbers of points in the series of figures for each type of polygon. In this stage, they should recognize that there is a regularity for each sequence and that their job is to find the general rule.

Strategy Selection. Students may initially explore the patterns for several polygons or may concentrate on the triangular series in hope that completion of that case will show the way for others. Some students will work with diagrams and counting almost exclusively while others will rapidly seek algebraic expressions for the general terms.

Carrying Out a Solution Strategy. Ultimately, students will have to find either a generate term or a rule for systematically creating and having counted the number of points in the next polygon. Some students will be able to write computer routines to test their hypotheses.

Interpreting the Solution. Students will, to varying degrees, see the relationships between regular geometric patterns and number sequences. The triangular and square series, in particular, should reinforce previous experience, and the other polygons illustrate the potential for generalization in mathematics.

2. In a four-by-four array, the first sixteen Fibonacci numbers (1,1,2,3,5, . . .) are placed so as to give the row, column, and diagonal sums as shown. Determine the entries in the table.



3. Using compass and straightedge, construct a model of a regular 12-sided polygon. Then construct models of an equilateral triangle, a square, a regular hexagon, and a regular octagon, each polygon having one side the same length as one side of the regular dodecagon. Use at least two of these regular polygons to completely tile the plane. How many such combinations are there?

Statistics and Probability: Concepts and Skills

S1. Students use counting procedures to solve combinatorial problems.

Examples

S1.1 Students use a list or a tree diagram to count possible arrangements.

- o List or use a tree diagram to indicate the orders in which three books a, b, and c can be arranged.
- o If a book d is added, list or make a tree diagram to find all possible arrangements.
- o From A to B there are two routes; from B to C there are five routes. Show by listing or tree diagram the routes from A to C via B. For a round trip, how many routes are there?

S1.2 Students calculate possible combinations and use the multiplication principle.

- o There are three entrees, four salads, two desserts, and three drinks possible for a meal. How many different meals are available if an entree, a salad, a dessert, and a drink are included? How many different meals are possible if only an entree and a salad are included?
- o In how many ways can letters of the word LEVEL be arranged?
- o There are four mathematics, two English, and three science books on a shelf. Find the number of possible arrangements of these books. What assumptions need to be made in this problem and how do these assumptions affect the solution?

S2. Students understand and use certain principles of probability.

Examples

S2.1 Students determine a sample space to represent the outcomes of an experiment.

- o Show a sample space for tossing two dice.
- o Show a sample space for tossing three pennies.

Examples

S2.2 Students assign probabilities to elements of a sample space and calculate probabilities.

- o Assign probabilities to the elements of a sample space for tossing one die. Calculate the probability of tossing a one or two.
- o Four coins are tossed. Write a sample space and assign the probability to each element. Find the probability of tossing two heads and two tails.
- o There are four dimes, five nickels, and three pennies. Two coins are selected at random. What is the probability of getting exactly 15 cents?

S2.3 Students distinguish between dependent and independent events and use conditional probability.

- o Identify the following pairs of events as dependent or independent events:
  - rolling a die and then tossing a coin
  - drawing two marbles from a bag at the same time
  - drawing two marbles from a bag, replacing the first before drawing the second
- o There are two red balls, three green balls, and five yellow balls in a box. If two balls are drawn at random without replacement, what is the probability of drawing two green balls? What is the probability of drawing a red and a green in either order without replacement? Discuss how the approach to solving these two problems differs.
- o Suppose in an election a total of eight votes were cast, and A defeated B by two votes. As the ballots were being counted, what is the probability that A led in the vote count at all times?

S3. Students determine measures of central tendency and dispersion of data they have collected.

	Examples
S3.1 Students construct a frequency table.	o Conduct a poll of students in a given class to determine favorite soft drinks by brand and by variety (diet, caffeine-free, and so on). Design an appropriate frequency table. o Determine heights of students in a given class, establish intervals for a frequency table, and record the data.
S3.2 Students calculate median, mean, mode, quartiles, and standard deviation.	o Organize test scores from a given examination and find the median, mean, mode, quartiles, and standard deviation.

S4. Students interpret data and make valid inferences regarding the data.

	Examples
S4.1 Students explain the significance of differing values of statistical measures.	o Two sets of data are given (test scores, for example). In one set, the mean and median are very close; in the other, the mean and median are farther apart. Discuss the possible causes. Make a sketch of a histogram that shows this. o Two sets of similar data are given. The standard deviations differ greatly. Discuss the possible causes. Make a sketch of a histogram that shows this.
S4.2 Students choose appropriate statistical measures to describe data.	o Which "average" is best to use in the following examples? - A store owner needs to decide which shoe size is most frequently sold - A teacher is calculating the average score on an exam

	Examples
S4.2 (continued)	o Seven employees of a company had salaries of $15,000; $15,000; $15,000; $18,000; $18,000; $25,000; and $90,000. When they approached their boss for a raise, employee A said their average salary was $18,000, employee B said the average was $15,000, and the boss said it was $28,000. Discuss the three statements.
S4.3 Students identify and explain misuses of statistical data.	o Explain the reasoning error in the following predictions: - The Republicans won in the last three elections. Therefore, they will win the next. - The Literary Digest conducted a telephone poll of its readers on their choices for the 1936 Presidential election. The Literary Digest predicted that Landon would win over Roosevelt based on the results of their poll. - It rained the last four years on the Fourth of July. Therefore, it will rain this July Fourth.
S4.4 Students estimate probabilities of events based on empirical data and use these probabilities to make inferences.	o A and B played 25 games of cards, and A won 15. Of the next 10 games, how many would you expect A to win? o Over the past five years, it rained 18, 12, 15, 14, and 20 days during the year. Approximately how many days would you expect it to rain this year? o Discuss the possible interpretations of the data collected in S3.1, first example.

Statistics and Probability: Problem Solving

1. Approximate the value of π by performing Buffon's needle experiment.

Commentary

Formulation. The needle experiment yields a fascinating result from a simple procedure: on a flat surface that has thinly drawn, evenly spaced parallel lines, a needle (or thin straight wire) is dropped repeatedly from a height of approximately one meter, and the number of times the needle touches or crosses a line as well as the total number of drops is recorded. Let the length of the needle (1) be less than the distance between the lines (d) and the total number of drops be over 500. About every 50 drops, the ratio of the total number of drops to the total number of times the needle touches a line should be computed, that value multiplied by the constant 2 1/d, and the result plotted on the vertical scale of a graph for which the horizontal scale is the number of drops. The graph of the results may jump around at first, but should settle down eventually to around 3.14, a close approximation to pi.

Analysis. Any significant variation of the experimental value of pi from 3.14 calls for an examination of the equipment, the procedure, or the computation. Students might think of some variations of the experiment; for example, random throws of a dart at a circle inscribed in a square. These experiments should be checked for validity and correct applications of probability.

Strategy Selection. Students may find other useful ways of displaying the results; for example, plotting the results (or averages of groups of results) on a distribution curve based on intervals of, say, 0.1, and computing the arithmetic mean and standard deviation.

Carrying Out a Solution Procedure. A computer can be programmed to carry out the recording, computation, and graphing of this experiment. A fairly simple program using the random command could be written to simulate the experiment and make thousands of "drops" in minutes. See Peter Beckman, "History of π," 1970, Galem Press, Boulder, Colorado, pages 154-161.

Interpreting the Solution. This classic experimental application of probability was first noted in 1777 by the French biologist, Georges Buffon. He proved that the theoretical probability (p) of the needle touching a line is $p = \frac{21}{\pi d}$.

Searching for and studying a proof is a useful extension of this problem. Students might construct and analyze other probability experiments that are easier to predict; for example, hitting the various sections of a shuffleboard court, or dropping darts on a target with concentric circular rings.

2. At a given street location, determine the number of people in each automobile that passes. Collect data for three different times during the day and on different days of the week. Determine the mean, median, and mode of the data.

3. Cite three examples from magazine or newspaper articles showing charts, pictures, and/or graphs that could lead to erroneous conclusions.

4. There are three red flags, three blue flags, and three white flags. A signal is given by raising exactly three flags on a pole. All three flags may be the same color, exactly two may be the same color, or all three may be different colors. How many different signals may be formed under these conditions?

5. How many different six-digit numbers can you form using all the digits 1, 2, 4, 5, 6, and 8 in each number? How many of these six-digit numbers are divisible by six? How many of them are odd?

6. Guess the probability that two or more people in a given sample have the same birthday. How many people are needed in order for the probability to be at least one-half?

Logic: Concepts and Skills

L1. Students understand and use certain terms and principles of logical inference.

Examples

L1.1 Students distinguish between inductive and deductive reasoning and explain when each is appropriate.

- Briefly describe the differences between inductive and deductive reasoning.
- Identify each of the following as an example of inductive or deductive reasoning:
  - Each member of a class measured the interior angles of four different triangles. In each case, the sum of the measures was approximately 180°. The class concluded that the sum of the measures of the angles of a triangle is 180°.
  - A school policy states that any student late to class receives detention. Joe is late to his first period class on Thursday. He concludes that he will receive detention.

L1.2 Students use inductive reasoning.

- Conduct a survey of the student body's opinions on cafeteria food and derive logical conclusions based on the survey.
- Construct all three medians of various kinds of triangles. What conclusion can be drawn?

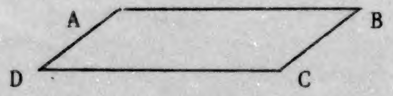
L1.3 Students use deductive reasoning in reaching conclusions.

- Recognize when the conditions of a definition are met:

  Given that the definition of a parallelogram is "a quadrilateral with both pairs of opposite sides parallel" and the quadrilateral ABCD shown below, determine which of the following examples satisfy the conditions of the definition (continued on next page):

L1.3 (continued)

Examples



Given: $\overline{AD} \cong \overline{BC} \cong \overline{CD} \cong \overline{BA}$

Given: $\overline{AB} \parallel \overline{CD}$; $\overline{BC} \parallel \overline{DA}$; $\overline{AD} \cong \overline{BC}$

Given: $\overline{AB} \cong \overline{CD}$; $\overline{AB} \parallel \overline{CD}$

- o Draw a valid conclusion (if possible) in each of the following cases:
  - If he had committed the murder, he would have mud on his shoes. He does not have mud on his shoes. Therefore, . . .
  - Extroverts have more fun. Ginny is an extrovert. Therefore, . . .
- o Which of the following statements is true?
  - A. All of the below.
  - B. None of the below.
  - C. One of the above.
  - D. All of the above.
  - E. None of the above.
  - F. None of the above.
- o Identify the flaw, if any, in the following arguments:
  - An equilateral triangle has two congruent sides. Therefore, any triangle with two congruent sides is equilateral.
  - If I am hit on the head, I get a headache. I have a headache. I must have been hit on the head.
  - It never rains on my birthday. It is raining today, so it can't be my birthday.

Logic: Problem Solving

1. Brown, Todd, Robinson, Slater, Mitchell, O'Brien, Grant, and Ford reached the final round of the amateur boxing championship. There were finalists in four divisions: 118-pound, 126-pound, 145-pound, and heavyweight. Brown weighed in at 117 pounds and Todd was the heaviest winner of all. Grant defeated Mitchell, and Slater won by a knockout. O'Brien lost the 145-pound final by a knockout and Ford defaulted in the bantam weight (118-pound) final.

   Who was the champion and who was the runner-up in each division?

Commentary

Formulation. Students may wish to begin by organizing and restating the information in their own words and notation. They should be aware of the possibility that the facts are inconsistent or inadequate. Looking for an inconsistency will help students understand the information.

Analysis. Students should see that this type of problem is different from most in that it has many answers--eight, in this case. This calls for extra effort in organizing the information, recognizing patterns, and using logical terms precisely. The logical processes needed in this problem are informal and primarily draw on general principles of common sense rather than mathematical concepts.

Strategy Selection. Students might volunteer to stand and represent the boxers, letting the class direct their actions in accordance with the information given in the problem. At some point, a table should be constructed with the names of the boxers on the rows and the four boxing divisions on the columns. A method or code will have to be devised to keep track of the champions and second place finishers.

Carrying Out a Solution Procedure. The table can be completed by a process of elimination, a useful logical process. There might be an inclination to make invalid inferences or wild guesses because the process of elimination is slow. An X in a box might be used to indicate an impossible case; for example, no boxer fights himself; if a boxer is in one division, he cannot be in any other. If the table idea fails, a trial-and-error list of matches might be constructed and tested against the information. There are, of course, far too many lists of matches to write out and test each one systematically; some shortcuts will have to be used.

Interpreting the Solution. Similar problems of logic might be explored; for example, eight ends from a length of four-strand wire cannot be traced from one end to the other and must be matched in pairs, the lead end and the tail end. They are tagged, and certain information is given. Problems of this type should be examined carefully to see if any statement is inconsistent, is redundant (does not provide any new information), or is inefficient (provides only a small amount of information). In this way, students can rate the "power" of each of the given statements.

2. A bracelet consists of sixty links. It is to be divided into seven sections such that by putting one or more sections together, any quantity from one to sixty links may be made. What would be the composition of these seven sections if the largest piece is to be as small as possible?

3. A strip of paper has n spaces. In each space is written 1 or 0, with the restriction that no two 1s may be written next to each other. The number T_n represents all the different ways in which the 1s and 0s can be placed on a strip with n spaces. Find the values of T_n for n = 1, 2, 3, 4, 5, 6, 7. Describe a rule for finding T_n.

4. There are three numbers that satisfy the following conditions: each number is a positive integer; the sum of the three numbers is an odd number less than twelve; one of the numbers is three times another; the product of any two of the three numbers is an odd number.

   Which of the following statements is consistent with all of the facts given above?

   a. The numbers are all equal.
   b. Two of the numbers are odd and the other is even.
   c. The sum of two of the numbers is one less than the third number.
   d. The numbers are all different.

5. There are 40 students in a class. Seven of the students failed in English, 9 failed in arithmetic, and 5 failed in science. One student failed in all three subjects. Two failed in English only; 5 in arithmetic only; one in science only. How many students passed all three subjects?

Algebra: Concepts and Skills

A1. Students evaluate algebraic expressions when rational numbers are substituted for the variables.

	Examples
A1.1 Students apply the rules for the order of operations to evaluate an expression.	o Given the expression $a + b \div c - d \times e$, insert exactly two sets of parentheses in the expression so that when the values $a = 4$, $b = 20$, $c = 2$, $d = -2$, and $e = -3$ are substituted, the value of the expression will be -6. o Given the expression $a + b(c - \frac{d}{e})$, determine the total number of operations involved. Indicate the order in which these operations will be performed. Evaluate the expression when $a = 8$, $b = 3$, $c = -4$, $d = -9$, and $e = 3$.
A1.2 Students evaluate expressions involving exponents.	o Given that $x = -2$, evaluate $-3x^2$ and $(-3x)^2$. Compare the results. Evaluate $-3x^3$ and $(-3x)^3$ and compare the results. Experiment with other exponents and numbers. Formulate a general rule. o Given that $x = -1$, evaluate x^2, x^3, x^4, x^5, and x^{297}. What is the general rule?
A1.3 Students apply the definition of absolute value to evaluate expressions.	o Evaluate $\|a + b\|$ and $\|a\| + \|b\|$ when (1) $a = 1$, $b = \frac{1}{2}$, (2) $a = -1$, $b = \frac{1}{2}$, (3) $a = 1$, $b = -\frac{1}{2}$, and (4) $a = -1$, $b = -\frac{1}{2}$. Under what conditions does $\|a + b\| = \|a\| + \|b\|$?

Examples

A1.3 (cont.)

- o Find the total number of floors traveled by an elevator as it travels from floor 1 to 8 to 6 to 3 to 7 to 5. If an elevator travels from floor x directly to floor y, what expression involving absolute value would show the total number of floors traveled?

A1.4 Students use estimation to give rational approximations of square roots.

- o Approximate to the nearest tenth: $\sqrt{ab}$, when $a = 3$ and $b = 5$. Why is $\sqrt{ab}$ not defined if $a = -3$ and $b = 5$?
- o Approximate to the nearest tenth: $\sqrt{a^2 + b^2}$ when $a = 3$ and $b = 5$.

  Find two sets of numbers a and b for which:

  $$\sqrt{a^2 + b^2} = a + b$$

A2. Students solve for a variable in equations or inequalities involving one or more variables.

Examples

A2.1 Students solve a linear equation or inequality in one variable.

- o Write in sentence form the steps required to solve the equation $3x + 4 = -17 + x$.
- o Find three nonintegral values of x that satisfy the inequality $-2x + 7 > 5$.
- o Find the value of x which satisfies the fraction

  $$\frac{2x + 1}{3x + 2} = \frac{4}{5}$$

A2.2 Students solve a formula for an indicated variable in the first degree.

- o Solve the formula $d = rt$ for r in terms of d and t.
- o Solve the formula $p = 2u + 2w$ for u in terms of p and w.

Examples

A2.3 Students solve practical problems involving direct and inverse variation.

- o The length of a rectangle of fixed area equals that area divided by its width. What happens to the width of the rectangle if its length is halved?
- o A front wheel of a tractor has a radius of r and a rear wheel has a radius R. The front wheel rotates at a rate of 200 rpm. What is the rate of rotation of the rear wheel?

A2.4 Students apply the appropriate formulas to determine area, density, distance, and so on.

- o Find the total floor area from a given blueprint of a house.
- o Your three test grades so far are 79%, 84%, and 57%. What is the lowest grade you could receive on your fourth test if you want to raise your average to at least 80%?
- o A teeter board 16 feet long is supported in the middle. Johnny weighs 120 pounds and sits five feet from the fulcrum. Jimmy is sitting on the other side of the fulcrum. What is the least amount that Jimmy can weigh and balance with Johnny?

A3. Students apply algebraic techniques in solving word problems.

Examples

A3.1 Students use variables to represent unknown quantities and write equations or inequalities.

- o In a given problem, determine the number of unknown quantities and represent each algebraically.
- o Given the variable representation of the unknown quantities in a problem, develop the equation or inequality that could be used to solve the problem.
- o Use methods of solving equations and inequalities to determine the solution of a given problem.

A3.2 Students formulate a problem given the representation of a variable and an equation or inequality.

- o Given that x represents Mary's current age and that $x - 3 = 27$, write a problem that would have resulted in this equation.

Examples

A3.2 (cont.)

- o Given that if x represents the number of dollars Al has, and $2x - 5$ represents the number of dollars Alice has, and $x + (2x - 5) < 35$, write a problem that would have resulted in this inequality.

A4. Students understand and can apply the concepts of ratio, proportion, and percent.

Examples

A4.1 Students set up and solve proportions for a variety of situations.

- o Two sides of a triangle have lengths of 6 and 14. The corresponding sides of a similar triangle are x and 21. Find x.
- o Mary received 60 points out of 75 possible points on her first test. If the second test has a possible 90 points, how many points must Mary receive to maintain her current average?

A4.2 Students apply formulas to solve practical problems involving percent.

- o An article is discounted at 80% of the original price. Given the original price, find the sale price.
- o Determine the amount of interest paid on a five-year loan of $6,500 if the annual interest rate is 12 percent and if no part of the principal is repaid.
- o The French Club had lunch at a local restaurant. The food and beverage charges totaled $123.58. Adding sales tax and a 15 percent tip, how much would each of nine members pay if they shared the cost equally?
- o Use a computer to compile a table of the principal accumulated over a 20-year period on a $100 savings account investment if interest is compounded (1) annually, (2) semiannually, (3) monthly, and (4) daily.

A5. Students graph and/or analyze a variety of algebraic relations.

Examples

A5.1 Students graph a linear equation or inequality in two variables.

- o Determine the x- and y-intercepts for the graph of $3x + 4y = 24$; find another ordered pair that satisfies the equation. Graph the function and determine from the graph three additional ordered pairs that satisfy the equation. Determine from the graph three ordered pairs that satisfy the inequality $3x + 4y > 24$.

A5.2 Students graph and/or analyze the graph of a quadratic function or relation and identify its characteristics.

- o Sketch the graph of $y = x^2 - 4$. Give the coordinates of its minimum point and the equation of its line of symmetry. Shade in the region representing $y < x^2 - 4$.
- o Given the graph of the function showing the relation between the height of a projectile fired straight up and the time that has elapsed since firing, determine the maximum height of the object and the time that elapses before it falls back to earth.

A6. Students solve certain systems of equations and inequalities.

Examples

A6.1 Students graph a system of two linear equations in two variables and approximate its solution, if any.

- o Graph:

$$\begin{aligned} 2x + 3y &= 12 \\ x - 4y &= 8 \end{aligned}$$

What can be learned from the graph? Repeat for the following systems:

$$\begin{aligned} 3x - y &= 3 \\ 3x - y &= 6 \end{aligned} \qquad \begin{aligned} y &= 3x - 3 \\ 6x - 2y &= 6 \end{aligned}$$

A6.2 Students graph a system of two linear inequalities in two variables and interpret the meaning of the graph.

- o Graph:

$$\begin{aligned} 2x + 3y &\le 12 \\ x - 4y &\ge 8 \end{aligned}$$

Identify three ordered pairs that satisfy the system of inequalities.

Examples

A6.2 (cont.)

- o Find three sets of values of x and y that satisfy the following three conditions: (1) the dimensions of a rectangle are x and y. The base of an isosceles triangle has a length of x and each leg has a length of y. (2) The perimeter of the rectangle is less than 30. (3) The perimeter of the isosceles triangle is greater than 20.

A6.3 Students use algebraic techniques to solve a system of two linear equations.

- o Solve by the multiplication-addition method:

$$\begin{aligned} 4x + y &= 5 \\ 3x - 2y &= 12 \end{aligned}$$

- o Use substitution to solve:

$$\begin{aligned} y &= 3x - 1 \\ 2x + 3y &= 17 \end{aligned}$$

- o Select an appropriate method to solve:

$$\begin{aligned} 3x - y &= 4 \\ x + y &= 8 \end{aligned}$$

A7. Students convert algebraic expressions to desired forms.

Examples

A7.1 Students apply the rules for exponents to rewrite algebraic expressions.

- o Rewrite $\frac{x^3 x^5}{x^2}$ as a single power of x.
- o There are x^{12} bacteria in a given mold at 10:10 a.m. Each produces x^5 offspring per minute. Assuming that none has died, how many bacteria exist at 10:11 a.m.?

A7.2 Students simplify algebraic fractions by dividing out the greatest common monomial factor.

- o Express as a fraction in lowest terms:

$$\frac{-2xy^2}{xy}$$

- o Express as a fraction in lowest terms:

$$\frac{24x^3y}{6x^2y^2}$$

Examples

A7.3 Students perform the operations of addition, subtraction, and multiplication on two binomials.

- o Determine the sum of 3ab + 7a and 5a - 4ab.
- o Illustrate the product of a and b by drawing a rectangle having a and b as dimensions and determining its area. Draw a rectangle with dimensions of a and (b + 5) and subdivide to show its relationship with the algebraic expression ab + 5a. Illustrate the product of (a + 6) and (b + 5) by drawing a rectangle with the given dimensions and subdivided to illustrate the four regions that make up its area.

A7.4 Students perform the four basic operations on simple rational expressions involving monomial numerators and denominators.

- o Express in simplified form:

$$\frac{3}{5xy} \cdot \frac{25x^2y}{9}$$

- o Express as a single fraction:

$$\frac{5}{2x} + \frac{3}{4x^2}$$

A7.5 Students find approximate values for expressions involving square roots.

- o Find the approximate perimeter of a triangle that has sides with lengths of 3, $8\sqrt{2}$, and $7\sqrt{3}$.
- o A rectangular lot has a length of 123 feet and a width of 245 feet. Use a calculator to determine the length of a diagonal to the nearest foot.

A8. Students recognize special types of polynomials and are able to factor certain algebraic expressions.

Examples

A8.1 Students factor polynomials by removing the greatest common factor.

- o Find the greatest common factor of the terms in the expression:

$$12x^2y + 18xy^2z + 36xyz^2$$

	Examples
A8.1 (cont.)	o Write the following expression as a product of the greatest common monomial factor and the corresponding trinomial: $24a^3 + 48a^2 - 6a$
A8.2 Students investigate ways in which factoring and other techniques can simplify mental calculations.	o $(41)(39) = (40 + 1)(40 - 1)$ o $77 + 88 = 11(7 + 8)$ (Assuming knowledge of multiplication by 11) o $121 - 2(11) + 1 = (11 - 1)^2$

Algebra: Problem Solving

1. Suppose you work for an unstable company and your salary undergoes some changes over a three-month period. In each of the following situations, discuss how your salary at the end of the three-month period compares with your salary at the beginning of the period.

   a. Your salary is cut 10% and subsequently raised 10%.
   b. Your salary is cut 20% and subsequently raised 25%.
   c. Your salary is raised 10% and subsequently cut 10%.

Commentary

Formulation. This is an example of a common application of percent that causes a great deal of difficulty. Because the problem defies the logic of "prevailing thinking," it will be useful for students to guess answers quickly to the following question for parts a, b, and c above: Will you be earning more or less at the end of the period than you were at the beginning? This problem should not be confused with the riddle that compares a salary earned weekly with the same salary paid monthly when equivalent increases in salary are granted at certain intervals. The riddle is even more difficult than this example, but, fortunately, rarely occurs in real life.

Analysis. Students may be tempted to subtract the percent of salary cut from the percent of salary increase and conclude that the difference is the percent of salary change. This may be corrected by considering the effect of salary changes of 100 percent, by representing the salary on a bar graph or with a pile of money, or by acting out the problem step by step.

Strategy Selection. Students may apply the percent equation: $p = r w$; that is, the part p is equal to the percent r times the whole w. The percent equation can be used by selecting some arbitrary salary and substituting the numerical value for w, substituting the percent given in the problem for r, and computing the amount of change p. Then the salary should be adjusted by the amount of change, and the percent equation should be applied to the resulting amount. After testing several values of the salary in this manner, students should see how to simplify the procedure by writing an equation that combines all the steps and then solving it to get the combined percent of change.

Carrying Out a Solution Procedure. The use of a calculator might help students recognize more quickly that "prevailing thinking" is in error in this type of problem. The algebraic expression of the variable in this problem is particularly interesting if the amount of difference between starting and final salary is solved in terms of the percents and the starting salary. In fact, one quickly notes that for equal percents of cuts and raises, it doesn't matter whether the cut or the raise comes first.

Interpreting the Solution. The applications that use percent in this way are manifold and should be explored at length. Similar situations may arise when a price, performance score, or some other amount is changed by a certain percent and the new amount is then changed by some percent. Students might explore and graph the pairs of percents for which the final amount equals the original amount; for example, a 25 percent gain is cancelled by a 20 percent cut ($1.25 \times 0.80 = 1.00$). Students should consider the effect of taking the cut or the raise first.

2. Graph the system $\begin{array}{l} 3x + 2y = 12 \\ 4x - y = 5 \end{array}$. On the same set of axes, graph the equation that is formed as:

   a) the sum of the two given equations
   b) twice the first equation plus the second equation
   c) the difference of the two equations

   Generalize.

3. Suppose you are planning to purchase some rope. You need between 15 and 20 pieces that are 7 inches long and one piece that is 80 inches long. The rope may be purchased in multiples of 12 inches. How much rope should you buy to eliminate as much waste as possible?

4. Given that the integer x is a perfect square, find a formula for the smallest integer after x that is also a perfect square.

5. Consider the right triangles whose three sides are:

   a) integers with no common factor
   b) the length of one of the legs is an even integer; the length of the other is an odd integer

   Determine ten right triangles which satisfy these conditions. Find the difference between the hypotenuse and the side which is an even integer. Do you see a pattern? Show algebraically that this conjecture is always true.

Applications

As a regular part of their high school mathematics instruction, students should have opportunities to apply their skills in both abstract and practical situations. The complex problems that follow, called applications, are examples of appropriate situations for applying mathematical skills. These applications are intended to demonstrate some uses of mathematics in the world, to reflect the richness and complexity of real problems, and to indicate the great variety of areas in which mathematics is used.

Each application is a description of a situation that can be investigated over a period of time and that yields a number of separate problems to be resolved. Each application requires original thinking and the problem-solving skills of formulating questions, devising strategies to answer the questions, carrying out the strategies, and evaluating results. In the solution of these problems, students must use a variety of skills and techniques from several areas of mathematics. The applications should also motivate students to search for generalizations of their results.

SCHOOL PARKING STUDY

Overview

Nearly every high school has problems related to the parking lot. Students are in a position to help resolve these problems, so there should be motivation for applying mathematical techniques to do so.

To develop this study, consider the hypothetical case of a high school for which funds are available to design, pave, paint, and beautify a designated section of the school property for the parking of staff's, students', and visitors' cars. Students' ideas are solicited for increasing the capacity of the parking lot and making the lot safer.

What Students Are Asked to Do

Study the school parking lot situation and prepare a plan that includes:

- A diagram showing the proposed parking spaces, driveways, and walkways
- An explanation of how this recommendation will meet parking needs
- The cost of the plan

Suggested Activities

1. Conduct an efficiency study. Suggestions include the following:
   - Observe, record, and report the rates of arrival and departure of cars.
   - Compare rates of arrival and departure for different days of the week and for different times of year.

- Observe, record, and report length, time, and location of traffic delays.
- Note any parking spaces that are difficult to enter.
- Note any dead ends in traffic patterns.
- Study effects of speed bumps on rate of speed and on traffic flow.
- Observe, record, and report traffic patterns for pedestrians and the effect of pedestrians on traffic flow.

2. Prepare a map of the proposed parking lot, incorporating the results of the efficiency study. Suggestions for this step include:

   - Measure and average the lengths and widths of regular and compact cars.
   - Measure the turning radius used in entering and leaving parking spaces.
   - Make scale maps of the area available for parking.
   - Compute the upper limits of the parking lot's capacity.

3. Make a cost study for the project.

   - Invite a landscape architect to explain how to compute the cost.
   - Call the district maintenance supervisor for assistance.
   - Compute the amounts of materials needed and determine prices; estimate the cost of labor required.

Suggested Cues for Teacher Assistance

Students should form groups to formulate questions, select strategies, identify and learn mathematical techniques required to carry out the strategies, and prepare final reports for the project.

Mathematics Involved

Use of tables and graphs, rate/time/distance formulas, queuing probability, percent, measurement, formulas, estimation, measuring, scaling, geometric properties of parallel lines and circles, areas of rectangles and parallelograms, construction of geometric figures, notions of maximum value and limits.

Extensions

Prepare designs and plans to improve each of the following:

1. Bicycle parking lots
2. High-turnover parking lots, such as supermarket lots
3. Emergency evacuation (of school auditorium, city, and so on)
4. Classroom/office/desk/table arrangements
5. Cafeteria efficiency

SHADOW IMAGES

Overview

The geometry of shadows is a highly productive study in terms of mathematics. Shadows can be used to estimate heights of tall objects when a few simple trigonometric concepts are applied. The study of the projection (shadow) of an object on a flat surface provides valuable experience in spatial visualization. This activity provides a direct connection between geometric concepts and physical objects and can lead to the discovery of unexpected relationships, which is rewarding to students of various ages and ability levels.

What Students Are Asked to Do

Using a classroom overhead projector:

- Describe the magnification factor of the projector in terms of the distance of the projector from the screen.
- Describe how the angle formed by a pair of lines is related to the angle formed by the image of the pair projected on a flat surface.
- Determine if and how any quadrilateral figure can be projected on a flat surface so that the image is a square.

Suggested Activities

1. Place a transparent ruler on the platform of an overhead projector, measure the image length of one centimeter, and measure the horizontal distance from projector to screen. Move the projector, adjust the focus, and repeat the measurements. From a graph of the magnification factor (image length/object length) versus the distance of the projector from the screen, determine the ratio by which the distance of the projector from the screen can be determined for a given amount of magnification.

2. Repeat the activity above, replacing the variable of the distance from the overhead projector to the screen with the distance of the object from the platform. Is the graph a curve or a straight line?

3. Fasten two drinking straws together at an oblique angle, tip the straw assembly on the projector platform in such a way that the images of the straws on the screen are perpendicular, and graph the angle the straws make with the platform versus the angle between the straws.

4. Cut out a variety of opaque nonrectangular quadrilaterals. Tip each figure on the projector platform in such a way that the image on the screen is a square. Devise a way to determine in advance how a given figure should be tipped in order for its projected image to be a square. Use the results of activities 2 and 3.

Mathematics Involved

Graphing, functions, similar triangles, geometric terminology, three-dimensional geometry.

Extensions

1. Measure the height of a flagpole.
2. Construct a three-dimensional model to represent the solutions to activity 4 above.
3. Project a scalene triangle so its image is an equilateral, right, or isosceles triangle.
4. Given an image, decide what three-dimensional objects could cast that image.
5. Determine what figures can be created by cross sections of a pyramid.

CALIFORNIA TEACHER STUDENT LOAN ASSUMPTION PROGRAM (CTSLAP)

Overview

A shortage of mathematics and science teachers exists. The California State Legislature has authorized a "loan forgiveness" plan to increase interest among college students in teaching mathematics or science as a career. According to the plan, an undergraduate student may borrow up to $2,500 per academic year from a commercial lender. The cost of borrowing the money (interest) is paid by the state to the lending agency while the student is in school and for six months afterward. At that time, the loan becomes the responsibility of the individual, including interest at 7 percent per year.

If the new college graduate chooses to teach mathematics in a school district that has a shortage of mathematics teachers, the state will make a series of payments to the agency, reducing the amount the new teacher has to pay back. At the completion of one year of teaching, the loan forgiveness program provides $2,000 to reduce the amount the student owes the lending agency. At the conclusion of the second year of teaching, the loan amount is reduced by $3,000 more. At the end of the third year of teaching, the loan is again reduced by $3,000, making a total loan forgiveness of $8,000. The teacner will have made regular payments on the loan beginning the seventh month following graduation. (See item 2 below.)

What Students Are Asked to Do

Determine the monthly interest payment, principal payment, and balance on a loan made with the conditions described above.

Suggested Activities

Record the answers to questions 1 through 6 on the chart.

1. Determine the maximum amount a college student can borrow in a five-year college program leading to teacher certification.

2. Determine the day that the college graduate will begin to pay interest on the loan if the last day of school is May 31, 1985.

3. Assuming the annual rate of interest is 7 percent, determine how much interest is owed at the end of the first month. Use a calculator.

4. Assuming that the lending agency wants a monthly payment of $145.14, how much of the principal is repaid at the end of the first month?

5. How much of the loan does the teacher still owe after the first payment has been made?

6. Continue to fill in the chart by repeating steps 3, 4, and 5 for the second, third, and fourth months.

Payment schedule	Beginning balance for this month	Monthly payment	Interest due at end of month	Payment of principal at end of month	Balance due after payment	Date of payment
1st month	(1) 12,500	145.14	(3)	(4)	(5)	(2)
2nd month	(5)	145.14				
3rd month		145.14				
4th month		145.14				
5th month		145.14				

7. Assuming that the loan forgiveness program pays the lending agency $2,000 following the fourth monthly payment, what is the beginning balance for the fourth month of the payment schedule?

Suggested Cues for Teacher Assistance

1. Review principal, rate of interest, column headings on chart, loan schedules.

2. Be sure that the class understands how the answers to questions 1 through 5 are determined and recorded and that the answers to item 6 are gotten by repeating the processes for questions 3, 4, and 5.

3. Note that the beginning balance for the second month is the same as the balance due after payment for the first month.

4. Discuss rounding off in banking practice versus rounding to the nearest penny.

Mathematics Involved

Subtraction, multiplication, determining calendar dates from data in a situation, practical application of percents and percentages, rounding off to the nearest penny.

Extensions

1. Complete the table for all the months until the loan is paid off, assuming a loan forgiveness payment of $3,000 after the 16th monthly payment and after the 28th monthly payment.

2. When will the loan be paid off?

3. Determine the total interest paid over the length of the loan.

4. Use a local bank as resource. A guest speaker can demonstrate how monthly payments and amount of total interest are determined on the basis of principal, rate of interest, and the length of time allowed to pay back the loan. Students can verify their results for 2 and 3 above.

PREDICTING PRESIDENTIAL WINNERS

Overview

From George Washington to Ronald Reagan, there have been 40 presidents of the United States of America. Except for those who assumed office on the death or resignation of an elected president, each president has been elected after much public debate and campaigning.

There is considerable mathematical thinking involved in analyzing past elections to find predictors of winners. Sometimes the predictors are surprising. For example, one of the best predictors over the years has been the length of the last names of the candidates--the candidate with the longer name has won nearly 75 percent of the time. Another equally good predictor that is more understandable is whether the candidate is the incumbent--the incumbent has been the winner more often. There are other possible predictors: ages of the candidates, alphabetic order or frequency of certain letters in the candidates' names, birthplaces, some facts about birth dates, and even political party. Data for this type of analysis are available in most public libraries.

What Students Are Asked to Do

Find and define two predictors of presidential campaign success that have an accuracy rate of more than 60 percent for all (or at least the last ten) past presidential elections. Give a possible explanation of why each predictor works.

Suggested Activities

1. Make a chart listing the two major party presidential candidates for each election and record information that might be useful in finding predictors. Include date of birth, birthplace, and party affiliation.

2. Collect other data that might have influenced public opinion during the election year--for example, whether the United States was at war; the amount the stock market had risen or fallen during the previous 3, 6, or 12 months; the birth rate or the amount of change in the birth rate; and some indication of gross national product.

3. Select one possible predictor on the chart and mark yes or no by each election to indicate whether the predictor worked for that election. Continue until you find two predictors marked yes for 60 percent or more of the elections.

4. For each election, determine whether or not a flip of the coin is a good predictor. One way to test this is to let heads indicate that the candidate whose name is first alphabetically is the winner. Repeat this for the entire list ten or more times and determine the percent of times this predictor works; that is, predicts the outcome of 60 percent of the elections. This percent is the measure of confidence one may have in any predictor that is found by the type of analysis used in the suggestions above. Tables of confidence values may be consulted instead of flipping coins for empirical values.

5. Look for predictors that have worked for one period of our history and not for other periods. Try to find a historical explanation.

Mathematics Involved

Practical application of percent, interpretation of graphs and tables, use of inductive and deductive reasoning, distinction of dependent and independent events, computing and using statistical measures, and estimation of probabilities of events from empirical and theoretical data.

Extensions

1. Use election data to find predictors for winners of gubernatorial, state legislative, mayoral, or similar election contests.

2. Study the Electoral College system and explain how a president can be elected without getting the majority vote. Determine the smallest percent of votes a presidential candidate can receive and still win an election.

3. Make a study of student absences caused by illness and find predictors for students in the top 10 percent and the lowest 10 percent of frequency of absences. Look for predictors related to diet, amount of sleep, clothing, weight/height ratio, and so on.

4. Study the gas mileage data from the Environmental Protection Agency report for all cars manufactured in one model year and find predictors for the car model with mileage in the best 25 percent. Look for predictors involving engine displacement, car weight, manufacturer, and so on.

TELEPHONE NUMBERS

Overview

This problem situation involves the design and assignment of telephone numbers. For the most part, telephone numbers are assigned by the local telephone company at the time service is installed. However, in many places it is possible to select a number from a list of available ones.

The most desirable numbers are generally considered to be those easiest to dial and remember, such as 222-1111 or 321-1234. Many feel that telephone numbers were easier to remember when they began with words, of which the first two letters were dialed (for example, PEnnsylvania 6-5000 was dialed as PE6-5000 or 736-5000). Some people use words for entire telephone numbers for ease of remembering (for example, POPCORN instead of 767-2676 to find the correct time).

With the advent of touch-tone dialing, ease of remembering numbers has not changed, but ease of dialing has. For the activities below, the use of touch-tone telephones should be assumed.

What Students Are Asked to Do

- Design a new, easy-to-remember telephone number for yourself.
- Determine how many telephone numbers can be created given various conditions.
- Explore the strategies used in assigning area codes.
- Devise improved ways of dialing and communicating telephone numbers.

Suggested Activities

1. Assume that three new prefixes (465, 466, 467) are being made available in your telephone service area and that you can choose any of them as the first three digits of your new telephone number. The telephone company has also allowed you to select the last four digits of your number.

   a. Explain how you would choose a prefix that is easy to remember. Then explain how you would choose the last four digits of your number so that the entire seven-digit sequence is easy to remember. Tell how you would remember your new number.

   b. Explain why some telephone numbers are easier to dial or easier to remember than others. Give examples of telephone numbers that are easy to dial but hard to remember. Give examples of numbers that are easy to remember but hard to dial. Explain each example.

2. Determine how many new seven-digit telephone numbers can be formed for each three-digit prefix.

3. Are all ten digits (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) available for use in the three-digit prefixes of telephone numbers? Why or why not?

4. Determine the maximum number of prefixes that can be constructed for a given area code.

5. Explain why a telephone company will not exhaust all possibilities for prefixes in one area code before splitting that area into two or more areas with separate area codes.

6. Determine the pattern of area codes. Explain why area codes were designed as they were. How are prefixes different from area codes? What is the geographical strategy for assigning area codes?

7. Devise an alternate way of expressing telephone numbers that makes the numbers easy to remember so they can be dialed accurately. How would you determine whether your alternate system of saying seven-digit telephone numbers was an improvement over the traditional three-digit/four-digit method?

8. Suggest ways to improve the numbering system for telephones.

9. Suppose you want to call a friend whose number is unlisted. You know the three-digit prefix of the number. You also know the last four digits, but not their correct arrangement. How would you find the correct arrangement? What is the maximum number of trials (telephone calls) necessary to find the correct number?

Suggested Cues for Teacher Assistance

1. Discuss with students the fact that the activities above involve some elements of systems planning. The questions present real considerations used in the selection, assignment, and distribution of telephone numbers.

2. Students should divide into planning and research groups. They should list and divide the tasks associated with each activity. They will have to agree on definitions for the terms "easy to dial" and "easy to remember." Require students to record their definitions and an account of their discussions or research.

3. The activities in this application present a variety of opportunities to contrast three modes of learning: auditory, visual, and kinesthetic. As students carry out the activities, they should see the value of each mode in their study.

4. Students should compare the results of the group activities, especially new ways of expressing telephone numbers. Try to have students generalize the value of group learning.

Model Curriculum Standards

Grades Nine Through Twelve

First Edition

Science

Adopted by
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PREFACE

In 1983, the California Legislature enacted Senate Bill 813 (Chapter 498, Statutes of 1983), a far-reaching reform measure designed to improve financing, curriculum, textbooks, testing, and teacher and administrator training in the state's elementary and secondary schools. One of the central themes of SB 813 is the reestablishment of high expectations for the content that would be taught in secondary schools and for the level of effort and performance by students.

Consistent with this theme, SB 813 reinstituted statewide high school graduation requirements. Before receiving a diploma, every student must complete at least the following courses:

- English--three years
- History-Social Science--three years
- Mathematics--two years
- Science--two years
- Foreign Language; Visual and Performing Arts--one year of either
- Physical Education--two years

To assist school districts in upgrading course content, SB 813 also requires the Superintendent of Public Instruction to develop and the State Board of Education to adopt model curriculum standards for the newly mandated high school course of study. School districts are required to compare their local curriculum to the model standards at least once every three years. The full text of the Education Code Section 51226, which requires the model curriculum standards, is as follows:

> 51226. (a) The Superintendent of Public Instruction shall coordinate the development, on a cyclical basis, of model curriculum standards for the course of study required by Section 51225.3. The superintendent shall set forth these standards in terms of a wide range of specific competencies, including higher level skills, in each academic subject area. The superintendent shall review currently available textbooks in conjunction with the curriculum standards. The superintendent shall seek the advice of classroom teachers, school administrators, parents, postsecondary educators, and representatives of business and industry in developing these curriculum standards. The superintendent shall recommend policies to the State Board of Education for consideration and adoption by the board. The State Board of Education shall adopt these policies no later than January 1, 1985. However, neither the superintendent nor the board shall adopt rules or regulations for course content or methods of instruction.
>
> (b) Not less than every three years, the governing board of each school district shall compare local curriculum course content, and course sequence with the standards adopted pursuant to subdivision (a).

Development of the model curriculum standards began in early 1984 when the Superintendent of Public Instruction appointed broadly representative advisory committees in six of the mandated subject areas. (Physical education standards will be developed in early 1985.) The committees worked for more than six months, frequently consulting nationally recognized experts, to produce draft standards. The draft standards were then reviewed and critiqued by teachers and administrators from more than 80 school districts throughout the state. The results of this extensive field review were used to make final refinements to the standards.

In recognition that this is California's first effort to prepare model curriculum standards, the standards are being published in a first edition to allow for revisions, where appropriate, as they are further reviewed and used by school district personnel over the next nine months. A second edition is expected to be published early in 1986.

As specified in SB 813, the standards are a model, not a mandate. They reflect the strongest possible professional consensus about the content that every student should be exposed to before graduating from high school. Some school districts will find that their programs are already consistent with the standards; others will set them as a goal to strive towards. Whatever the results of each district's curriculum review, the Superintendent of Public Instruction and the State Board of Education hope that the standards will be of help as teachers, administrators, members of school district governing boards, and others concerned with the schools work to build a stronger, richer curriculum for all our students.

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INTRODUCTION

The importance of scientific literacy in a technologically advancing society cannot be overstated. Students of today will fill a role tomorrow in an environment in which scientific and technological innovations will be constantly changing the lives of those on Earth.

The goal of scientific literacy for all students in California is as challenging as it is important. Scientific literacy has four components: (1) developing positive attitudes about science and taking an active interest in natural phenomena; (2) learning fundamental concepts of science and how the applications of these concepts affect our daily lives; (3) learning techniques that comprise the scientific method to validate knowledge and to develop thinking skills for lifelong learning; and (4) using attitudes and knowledge about science to live as an informed citizen in a scientifically developed nation. In the future, voters in our democracy will need to be informed about scientific as well as political and social issues in order to play an active part in sustaining and improving our social institution and natural environment. The goal for science education in California is to transmit fundamental biological and physical science concepts to students while imbuing positive attitudes about science. This approach enables students to use the basic concepts for continual learning and application.

Pursuant to Senate Bill 813, Statutes of 1983, high school students are required to take two years of science, "including biological and physical science." The model curriculum standards which follow have been organized into two major sections that parallel the legislative intent of a balanced biological and physical science. The science concepts which form the basis of the model curriculum standards are also consistent with the learner expectations listed in the 1984 Science Framework Addendum for California Public Schools. In order for students to have a truly balanced science program, they must also learn about Earth and space science. While the law specifies only life and physical science, the Science Curriculum Advisory Committee has included standards for earth and space science concepts within the physical science section as proposed by the State Board of Education model graduation requirements in Raising Expectations (1983). In addition, the committee has elected to blend the development of scientific processes and attitudes throughout both sets of standards. Through this organizational structure, it is intended that the content of a science program will be balanced by attention to the imparting of the skills, attitudes, and ethics of practicing scientists.

Ideally, students enrolling in high school science courses will have a solid foundation in basic science concepts. Success in the science program will depend, in part, on the backgrounds students bring to the biological and physical science coursework. The prerequisites of entering ninth graders should include:

1. Knowledge of environmental phenomena that children experience as they grow. This includes biological principles such as the growth of plants and animals and interrelationships among living things, and physical events such as lightning and thunder, sounds, and energy sources.

2. Skills of scientific investigation learned in previous laboratory science classes. This includes using the scientific method, understanding cause and effect relationships, and following safety precautions.

3. Attitudes about the role science plays in understanding and manipulating our environment. This includes acquiring the traits of open-mindedness, eagerness, and skepticism; treating the environment (and all living things sharing it) humanely; and eliminating superstitions and misconceptions about how things work.

4. Basic skills of reading and mathematics. The prerequisite skill in reading enables students to read science texts, laboratory manuals, and periodicals as well as to decode new vocabulary and terminology. Mathematical abilities, especially computation, problem solving, algebraic concepts, and measuring/graphic skills are integral to successful performance on the topics contained in these model curriculum standards.

ORGANIZATION AND FORMAT

This document is designed to facilitate the review of high school science courses required for graduation by SB 813, Statutes of 1983. The program standards section sets the stage for the study of science in secondary schools. None of the sciences exist in isolation. The wholeness of science and its close relationships with the other content areas are assumed from the start.

Both the biological and physical science standards follow the same format. The statements of the standards have been boxed. The bulleted items are suggested activities which help define the meaning of the standards in practical terms. The activities describe a wide variety of learning experiences on several levels of understanding. The Earth and space science standards are included with the physical science standards.

PROGRAM STANDARDS

Science as a way of solving problems and increasing human knowledge is the most dynamic aspect of living in the 20th century. Students should be aware of the information explosion created by the application of scientific principles and technological advances in investigative endeavors. Students should apply these scientific methods to their lives in the choices and decisions they make. The processes of scientific inquiry should foster both the creative and controlled responses to posing, investigating, and answering problems. Throughout the study of biological and physical science, the scientific methods must be pervasive.

Science is not an isolated discipline but enhances and is in turn enhanced by all of the sciences and other subject area disciplines. In these model curriculum standards, the standards themselves often have numerous overlaps.

These crossovers ought to be exploited in a way that emphasizes the natural integration of science. The separation of biological and physical science is only a matter of convenience and is not a true separation. Students should have opportunities to explore, discover, and experience the interdependencies of the sciences with those of other academic disciplines.

It has been said that mathematics is the language of science. There is probably no greater opportunity for the student to apply concepts and skills learned in mathematics than in science classes. Measurements, graphs, ratios, percent, as well as the myriads of calculations necessary in scientific investigations, are all mathematical tools necessary for a successful science program.

Writing opportunities abound in science. "Writing across the curriculum" is a statewide goal that can be attained with the active participation of teachers and students. As writing skills improve, so does the attainment of subject matter concepts and skills. Students in science should be given every opportunity to write. Laboratory write-ups, research papers, anecdotal records of observations, and essay examinations are just a few of the instructional opportunities available to the science teacher.

The model curriculum standards describe the range and rigor of coursework that is appropriate for all students. Students that begin high school taking general life science and physical science should be allowed and even encouraged to take more advanced coursework if they are interested and able. Science programs should be flexible enough for students to prepare for advanced courses in biology, chemistry, physics, and earth sciences. Students planning for a career with a science base, such as engineering, medicine, or research, should take a minimum of three years of science and three years of mathematics.

STANDARDS FOR BIOLOGICAL SCIENCE

1. Students understand the structures and functions of cells and cell components. This would include a knowledge of the structure and function of the nucleus and the cytoplasm as well as the similarities and differences between plant and animal cells.

Activities that exemplify this standard are:

- o Students will research the work of Anton Van Leeuwenhoek and construct a replica of the first device used to observe microorganisms. They will use their replica to observe slices of cork, etc., and they will compare and contrast what they see with what can be seen with modern-day microscopes.
- o Students will compare and contrast animal (e.g., human cheek cell) and plant (e.g., onion cell) by preparing slides and examining them under a microscope, following correct laboratory procedures.
- o Students will compare the different architecture of cell types in animals by examining and diagraming prepared slides of bone, muscle, blood, nerve, and adipose cells and relating their structures to functions.
- o Students will observe the permeability characteristics of a cell membrane by carrying out an investigation which shows the effect of a salt solution on elodea cell membranes and/or the effect of a dye solution on a celery stalk.

2. Students understand the interrelationships among tissues, organs, and systems: cells make up tissues, tissues make up organs, and organs make up systems.

Activities that exemplify this standard are:

- o Students will know, after observing the individual cell types, how the epithelial, muscle, adipose, blood, bone, and connective tissues relate to the function of the body systems by dissecting a chicken wing and making accurate labeled drawings of the component parts.
- o Students will determine how many different types of cells, tissues, organs, and systems they can identify in a plant by examining a whole plant, including the roots, stems, leaves, etc. (e.g., bean, radish, turnip).
- o Students will demonstrate an understanding of the structure and function of the digestive system by tracing the pathways of food through the digestive system, with emphasis on tissues and organs that perform specialized functions while contributing to the entire digestive process.

3. Students understand that organisms are categorized by scientists according to similarities and differences in the structure and function of the individual organisms.

Activities that exemplify this standard are:

- o Students will classify insects that they have obtained during a field trip according to the structure and types of wings, types of legs, and kinds of mouth parts.

- o Students will investigate the value of using a classification system by reading the history of Audubon's efforts to collect and categorize birds of North America.

- o Students will devise a classification system for leaves based on common characteristics such as length, width, shape, color, and texture or develop a classification system for items found in their local supermarket.

- o Students will utilize a taxonomic key to identify local living organisms (plant or animal) located on the school grounds.

4. Students identify roles of animals, plants, and protists in the web of life.

Activities that exemplify this standard are:

- o Students will collect and identify typical examples of protists (paramecia), algae (seaweed), and fungi (mushrooms) and discuss their significance in food production, decomposition, and disease.

- o Students will demonstrate their knowledge of protists by describing a possible new harmful or beneficial organism, using their knowledge of the needs and characteristics of protists. Students will describe their "hypothetical organism" through drama, role playing, creative writing, or music.

- o Students will identify, count, speculate on the role of, and accurately draw the variety of protozoa found in a sample of pond water.

5. Students appreciate the commonality and diversity of animal behavior and distinguish between inborn and acquired characteristics.

Activities that exemplify this standard are:

- Students will learn about typical human reflexes by examining pupillary reflexes in response to dramatic changes in light and diagraming the response.

- Students will learn how training an organism involves conditioned responses of innate behavior by reading pet training manuals and observing trained animal acts (e.g., dolphins, horses) and by preparing a classroom demonstration (e.g., train goldfish to respond to colored cellophane).

- Students will understand different learning patterns by researching the works of Pavlov and Skinner in operant and conditioned behavior and participating in a class discussion.

6. Students understand specific behaviors inherent to humans.

Activities that exemplify this standard are:

- Students will give examples of how humans have altered the environment after reading chapters in or viewing videotapes of Jacob Bronowski's "Ascent of Man."

- Students will understand the relationship between visual acuity and information processing by the brain by the study of Escher prints and various optical illusions and their explanations.

- The student will investigate a function of the nervous system by comparing their reflexes with those of other class members through the determination of who can stop a falling meterstick in the least time as measured by distance.

7. Students understand the structure, function, and maintenance of the major human body systems (e.g., digestive, nervous, circulatory, skeletal, muscular, respiratory, reproductive, excretory, endocrine) as well as their component parts and consider the interrelationships among systems.

Activities that exemplify this standard are:

- The student will write a research report on the relationship of smoking to respiration and circulation.
- The students will observe homeostatic mechanisms by measuring their pulse rate before, during, and after aerobic exercise and compare this homeostatic mechanism with other such temperature controls (e.g., sweating/shivering).
- The student will understand the importance of the skeletal system by assembling the skeletal parts of a frog, chicken, rabbit, or other animal and describing orally or in writing the structure and function of different bone structures (cranium, sternum, femur, tibia) and joints (ball and socket, hinge, sliding) and relating them to comparable human structures.

8. Students describe the growth and development of humans from conception through old age. They will discuss the diversity of humans and the variation among growth and development rates.

Activities that exemplify this standard are:

- Students will sequence, compare, and contrast the physical and physiological changes that take place in human males and females during adolescence by collecting data on relatives and preparing an oral report.
- Students will analyze the physical and physiological changes that occur in humans over the passage of time by studying Shakespeare's "The Seven Ages of Man" found in As You Like It, Act 2, Scene 7, and prepare a written report in which the students predict the changes associated with the stages.
- The student will determine the optimal caloric amount given the height, weight, body structure, and sex, showing changes for differing ages and for a pregnant and lactating female.

9. Students understand the complexity of animal or plant development and differentiation.

Activities that exemplify this standard are:

- o The student will observe the development of brine shrimp larvae from eggs with a hand lens and illustrate their growth and development in a written report.
- o The students will learn how animal embryos are similar in their early stages by examining and comparing photographs/ models or sketches of the embryonic stages of humans, reptiles, fish, and birds.
- o The student will understand how plants develop by observing the growth of the embryos of lima beans, pea, and corn seeds, comparing their growth and development with charts and graphs and discussing how plant embryos obtain their food.

10. Students understand the factors necessary to sustain plant life. Students will become aware of the complexity and variety of plant processes, some of which are exploited in the field of agriculture and horticulture.

Activities that exemplify this standard are:

- o Students will collect and compare different plant specimens (e.g., cacti, grasses, ferns, trees) and describe how certain plant organs (leaves, stems, and roots) are adapted for special functions. Students will also examine the work of Luther Burbank and report on how and why he developed new plant varieties.
- o Students will examine tropisms in plants by conducting their own experiments that demonstrate phototropism and geotropism. Results and conditions producting various results will be compiled, reported, and discussed.
- o Students will learn why specific crops are grown regionally by determining the economic, soil and weather conditions that favor the growth of these species and by listening to a local farmer present the environmental and economic factors that lead to productive harvests. In addition, the class will discuss how much California contributes to the world food supply.

11. Students understand that photosynthesis is the process by which light energy from the sun is used to convert carbon dioxide and water into sugars, storing energy and releasing oxygen, thus renewing the supply of atmospheric oxygen.

Activities that exemplify this standard are:

- Students will investigate the energy production from photosynthesis by preparing an oral report on biomass and organic fuels.
- Students will be able to discuss the energy requirements of plants (absorbed wave lengths and intensity) and the relationship between those requirements as well as the position of the Earth in space relative to the sun. Students should be able to discuss the energy output of the sun and the implications of these astronomical data for the existence of life on other planets.

12. Students identify the processes of mitosis, meiosis, and the roles of DNA and RNA in the replication of cells and in the reproduction of organisms.

Activities that exemplify this standard are:

- Students will estimate the large number of gene combinations possible (roughly 1 million) by using four letters such as w,x,y,z to make up simulated ten letter chromosome combinations.
- Students will compare and contrast mitosis by preparing and examining slides of onion root tips and meiosis by examining prepared slides of whitefish blastula and arranging student-made sketches of mitosis and meiosis in order of occurrence, including a discussion of the final outcome of meiosis and mitosis processes.
- Students will read historical accounts (e.g., by Watson, Crick, McClintock) on their work with the DNA molecule and the role of genetics in cell replication.
- Students will learn how minor alterations in the DNA code can have far-reaching effects by studying diseases such as sickle-cell anemia and the pioneering research by scientists like Angela Ferguson.

13. Students understand the structure and function of the reproductive systems of plants and animals, including the role of hormones and auxins.

Activities that exemplify this standard are:

- The student will understand the reproductive system in plants by observing and drawing the dissection of a complete flower. The student will include a discussion of the function of the individual components and the significance of sex in plants.
- The students will compare and contrast the various forms and methods of asexual reproduction/vegetative propagation (including grafting, layering, runners, and rooting) by carrying out an investigation in which coleus or geranium leaves are rooted and by the preparation of a report on the economic significance of asexual reproduction.
- The student will document asexual reproduction by examining and diagraming evidence of fission, budding, or conjugation in prepared slides and/or living preparations of paramecium, hydra, or similar organisms.
- The student will understand the structure and function of the mammalian reproductive system by relating the structure to the function when given diagrams/models of male and female mammalian reproductive structures.

14. Students understand the principles of genetics and heredity: the passing of traits from parents to offspring.

Activities that exemplify this standard are:

- The student will discover that traits are inherited by constructing a family pedigree and testing the ability of their parents and relatives to roll their tongue and use the results to determine whether the ability of tongue rolling is a dominant or recessive trait.
- The students will investigate the role of probability in heredity by determining what combinations of heads and tails occur when two coins are tossed together 50 times and the results charted.
- The students will understand and appreciate the contributions of Gregor Mendel by giving an oral report on his life's work in the field of genetics. They will also demonstrate a knowledge of the mechanics of genetics by using Mendel's principles in problems using simple crosses.

15. Students understand the theories of evolution, the diversity of life possible through the process of natural selection and mutation and be aware of the changes that have and are taking place in life on Earth.

Activities that exemplify this standard are:

- Students will explain the theory of natural selection by tracing the development of the modern horse based upon known fossil evidence obtained from selected references.
- Students will understand an example of natural selection by explaining how house flies could develop immunity to DDT since 1945.
- The students will demonstrate an understanding of the role of mutation in the evolutionary process by growing sample tomato seeds exposed in space, other irradiated seeds, or fruit flies.
- Students will appreciate the creative ideas on evolution proposed by Charles Darwin after considering reported variations in the finches and tortoises found in the Galapagos Islands.

16. Students understand that ecology consists of studying how communities of living things interact with and depend upon each other and the physical environment and that conservation consists of attitudes and actions by man to preserve the natural state of ecosystems.

Activities that exemplify this standard are:

- The student will understand the concept of the balance of nature by observing and listing the organisms included in a balanced aquarium/terrarium and relating the role of each in maintaining the balanced environment.
- The student will describe and discuss what alterations in an environment have led to the extinction/extirpation of specific species (e.g., California condor, Tule elk, Pismo clam, and Monterey sardine).
- The student will investigate the ways we alter our environment to increase food production and discuss the consequences on a long-term basis regarding survival and the environment.
- Students will understand the importance of conservation efforts by researching the life of John Muir and reporting on his efforts to save the redwood trees in California.

17. Students appreciate the importance of technological advances in the fields of agriculture and medicine.

Activities that exemplify this standard are:

- Students will appreciate the importance of technological advances in medicine in the saving of life by researching the life stories of Jonas Salk and Albert Sabin and their work with polio vaccines.

- Students will appreciate the complexities of organ transplants by designing the specifications for an artifical heart and/or kidney and by researching the work of Michael DeBakey and/or Christiaan Barnard.

- The student will develop a plan for action concerning increasing the crop yields for the farmer utilizing new technology in agriculture such as organic pest control through pheronomes, hydroponics, drip irrigation, genetic engineering, etc.

18. Students appreciate the wide variety of California's natural areas: the landforms, climates, and conditions that support life.

Activities that exemplify this standard are:

- Students will become familiar with the biomes of California by establishing terrariums and aquariums with examples of different zones. The students can also make dioramas, scrapbooks, slide shows, and field transects which show examples of different biomes.

- Students will appreciate the uniqueness of different biomes by breaking into small groups and selecting a specific biome (e.g., desert, deciduous forest, grassland, marine, alpine, etc.). Each group will prepare a report on their biome noting main plant and animal species, elevation, climate, and agricultural products found in it.

STANDARDS FOR PHYSICAL SCIENCE

1. Students understand the structure of atoms and molecules, including the component parts (e.g., electrons, neutrons, protons) and the bonds between atoms that give rise to molecules. In addition the student will understand the differences between compounds and mixtures as commonly found in their environment.

Activities that exemplify this standard are the following:

- Students will demonstrate a knowledge of atomic structure by comparing the atomic models and theories by Democritus and Aristotle with those of Bohr and Dalton.
- Students demonstrate an understanding of atomic structure by sketching a typical atom and labeling its parts.
- Students relate how molecules are formed when explaining chemical processes (e.g., single and double replacement) after conducting an investigation where zinc and hydrochloric acid react to form zinc chloride.
- Students will observe the properties of compounds by preparing and separating several different compounds (e.g., sugar and water, hydrogen and oxygen, etc.).

2. Students can identify examples of elements and compounds that form common items in their environment by means of their chemical and physical properties. In addition, students will appreciate the myriad of compounds that can be formed from different chemical combinations of elements.

Activities that exemplify this standard are:

- Students will identify elements by means of a flame test. Elements to be tested could include copper (as copper sulfate), lithium (as lithium chloride), strontium (as strontium nitrate), etc. An alternative investigation could include the construction of a student-made spectroscope.
- Students will investigate the common physical and chemical properties of metals and relate them to their uses in the environment by researching the work of scientists such as Shirley Jackson on the effects of external conditions on metals.

3. Students understand the three basic phases of matter on earth and the role temperature and pressure play in the change of phase. Students will be able to relate the kinetic theory model to matter around them.

Activities that exemplify this standard are:

- Students demonstrate their understanding of sublimation by describing the behaviors of dry ice, frost formation, and moth balls (paradichlorobenzene).
- Students will construct a phase-change investigation (e.g., water or paraffin) and then construct a phase change chart and supply the correct process for phase-to-phase change. Vocabulary to be included are solidifying, freezing, melting, evaporation, condensation, and sublimation.
- Students will understand the relationship between pressure, volume, and temperature of gases by means of a computer simulation or suitable laboratory investigations.
- Students will investigate crystal formation and describe the observable results of projecting drops of solutions of salt, sugar, and copper sulfate by means of a microprojector.

4. Students understand that elements are arranged in a periodic table. In addition, they learn that properties of elements are related to the number and "arrangement" of the electrons, protons, and neutrons that compose their atoms.

Activities that exemplify this standard are:

- Students will understand the organization of the periodic table by preparing an oral report on the work of scientists such as Jons Jakob Berzelius, Dmitri Mendeleev, Henry Moseley, and Glenn Seaborg.
- Students will explain the similar properties exhibited by a family of elements for example by preparing a report on the characteristics of a chemical family.
- Students will appreciate the history of the discovery of elements by developing a table showing how some elements are related and how the existence of similar elements was predicted based on the relationship.

5. Students learn to define, measure, and/or calculate various physical characteristics of substances (e.g., mass, weight, length, area, volume, and temperature).

Activities that exemplify this standard are:

- o Students learn how to properly use laboratory equipment to gather data, using a metric balance, beakers, and a graduated cylinder to compare densities of liquids and solids.
- o Students will use a variety of methods to determine the mass and volume of regularly and irregularly shaped solids in metric units.
- o Students become aware of the ratio of volume and mass by determining the density of given liquids and solids.

6. Students understand that chemical reactions can be classified according to the kind of rearrangement of atoms (synthesis, decomposition, replacement); the type of substances reacting (acid-base, oxidation-reduction); and whether energy is absorbed or released. Related considerations are the concepts of chemical equilibrium and the effects of temperature, pressure, and catalysts on reaction rates.

Activities that exemplify this standard are:

- o Students will describe the rearrangement that occurs in a simple chemical reaction by means of assembling and reconstructing molecular models.
- o Students will describe a variety of chemical reactions, including decomposition and replacement, by observing and then writing the equation for the decomposition of water and the replacement when iron replaces copper in a solution of copper II sulfate.
- o Students will investigate chemical reactions that result in the release of energy by carrying out an investigation in which zinc and hydrochloric acid are combined and the temperature change measured. Students shall also explain the temperature change or light produced when various commercial products are used (e.g., cold or heat packs used for injuries, light rods used for camping).
- o Students will compare and contrast examples of chemical equilibrium (e.g., homeostasis), with physical equilibrium (e.g., sealed versus opened bottles of soda pop).

7. Students understand the importance of the synthesis of new compounds which have properties needed to serve certain purposes.

Activities that exemplify this standard are:

- The student will compare and contrast the unique properties of synthetic fibers by preparing a report which compares and contrasts their characteristics with those of natural fibers. An alternative activity would involve studying the work of Wallace Carothers and making a polymer in class.

- The student will gain an appreciation of the role synthetic substances play in the food industry by investigating the place that artificial sweetners/preservatives/coloring and flavorings play in our society.

- The students will appreciate the role of synthetics in medicine by preparing a report on synthetic materials used in the health field. (Include vitamins, plastics, heart valves, etc.)

8. Students understand the basic concepts of nuclear science, including elementary particles, fission, fusion, plasma, radioactivity, half-life, and nuclear chain reactions.

Activities that exemplify this standard are:

- Students will apply the concept of half-life by calculating, given the half-life of an isotope, the amount of a given sample remaining after specified time intervals measured in half-lives.

- Students will learn some applications of nuclear science by preparing a report on the use of radioisotopes in medicine, industry, and research that includes precautions in shipping, use, and disposal. References from science reports, science magazines, and newspapers will be utilized.

- Students will understand that they are exposed to natural radiation by comparing and contrasting the radiation received when exposed to X-ray, television, trips at high altitude, and normal background radiation.

- Students will identify the author's purposes and points of view on the subject of nuclear power by reading a variety of articles in science magazines, newspapers, and popular magazines and subsequently participating in a class discussion.

9. Students understand forces and their effects upon matter.

Activities that exemplify this standard are:

- The student will list, compare, and describe the various forces common to physical science (e.g., mechanical, gravitational, electrical, magnetic).
- The student will compare the forces used in skate boarding, ice skating, wind sailing, and hang gliding.
- The students will use the parallelogram (or another) method in calculating the "resultant" of two forces and in the resolution of a force into its components. Have students use examples found in their everyday life.
- The student will measure, record, and analyze the forces acting on a passenger in a car moving at a constant velocity when it hits a solid object (e.g., brick wall). The student should calculate the forces with the passenger wearing a seat belt versus not wearing a seat belt.

10. Students understand that energy has been described as the ability to do work and that energy appears in many forms that can be neither created nor destroyed but only exchanged among various bodies or converted from one form to another in a quantitative and reproducible way.

Activities that exemplify this standard are:

- Students will investigate the different forms of energy (e.g., identifying common examples of chemical, radiant--heat and light, electromagnetic, nuclear, mechanical, and sound energies) by giving examples found in their school and/or home environment.
- Students will demonstrate a knowledge of how molecules move by observing Brownian movement through a microscope and explaining their observations in a small group.
- Students will determine the various exchanges and conversions of different forms of energy by tracing gasoline back to its source and then discussing its use in an automobile.
- Students will analyze and evaluate the efficiency, practicality, and abundance of energy transformations of hydroelectric power, solar power, geothermal power, wind power, and nuclear power.

11. Students understand mechanics, including the interrelationships of force, mass, distance, and time.

Activities that exemplify this standard are:

- o The student will observe and describe the advantages of using inclined planes by measuring and comparing the forces necessary to pull a mass along a plane adjusted at various angles and apply this knowledge to design an access ramp for use by a handicapped individual.
- o The student will design an experiment that defends Archimedes' statement, "Give me a lever and a place to stand, and I will move the earth."
- o The students will calculate the mechanical advantages of a gear system and pulleys of a 12-speed bicycle climbing a hill.

12. Students understand that motion is a movement of an object from one place to another, that acceleration is a rate of change in the velocity and or direction of motion, and that inertia is the resistance manifested by all matter to alteration of its state of motion.

Activities that exemplify this standard are:

- o Students will investigate and differentiate between speed, velocity, acceleration, force, friction, and inertia by relating observations on a class activity involving the pulling of different masses and substances across different surfaces with a spring balance.
- o Students will investigate the role of forces through personal experiences by explaining what happens when an elevator moves fast, when an automobile stops suddenly, and when a tablecloth is pulled from under a fully set table.
- o Students will study the work of Galileo and falling bodies and will demonstrate the forces of gravity by showing that a horizontally propelled ball falls at the same rate as a ball dropped straight down.
- o Students will appreciate the contribution of Newton and others to our understanding of motion by relating Newton's three laws with Kepler's motion of heavenly bodies and giving common observations of each one.

13. Students understand the nature of waves (electromagnetic [including light], sound, fluid), sources, propagation, and interactions.

Activities that exemplify this standard are:

- The student will understand the nature of wave propagation by investigating and describing the results of wavetable interactions of similar waterwaves having their sources in a variety of locations.

- The student will show an understanding of the relationships of the components of a wave by observing, diagraming, and labeling the parts of transverse waves having different frequencies and amplitudes. A visiting scientist from the field of electronics could display and discuss the relationship among wave components, using an oscilloscope.

- The student will observe and compare the sounds produced by a variety of objects such as tuning forks, stringed and wind instruments, and the human larynx and prepare a report comparing sound waves with ocean waves.

- The student will generate a list of examples of waves that are in the environment, indicating what part each play in their everyday life (e.g., sound waves, seismic, microwaves, laser).

14. Students describe the characteristics of the electromagnetic spectrum (with reference to the nature of the surfaces/materials they are incident upon.)

Activities that exemplify this standard are:

- The student determines different ways in which light is generated (e.g., fire, sun, incandescent, fluorescent) and how it demonstrates humans' command of the environment.

- The student contrasts properties of materials that transmit, reflect, absorb, and/or diffract visible light while examining the effect of lenses, mirrors, diffraction gratings, and opaque objects on incident light.

- The student compares angles of incidence and reflection of light while conducting measurements of those angles in a laboratory activity and relates them the different reflector shapes in headlights, searchlights, car mirrors, etc.

- The student differentiates the effects of diverging and converging lenses on incident lights and discusses the uses of each in correcting sight problems.

15. Students understand heat, heat transfer, specific heat, and the differences between heat and temperature and their implications for calculating heat loss in isolated systems, converting heat into work.

Activities that exemplify this standard:

- o The student will observe the process of heat transfer by measuring, recording, comparing, and analyzing the rate of the flow of heat through a variety of solid materials such as copper, styrofoam, iron, aluminum, glass, and wood and relating how the processes of insulation and conduction are used in a home or industrial setting.
- o Students will learn about specific heat and why salt is added to water and ice to change the boiling and freezing points.
- o Students will differentiate between heat and temperature by carrying out an investigation which demonstrates various methods of preventing the melting of an ice cube. Several different scales (e.g., Fahrenheit, Celsius, and Kelvin) shall be used to express temperature values.

16. Students understand and appreciate the nature and role of electricity and electronics in the natural and the technological world.

Activities that exemplify this standard are:

- o Students will investigate the phenomena of static electricity by researching the life of Benjamin Franklin and describing how a lightning rod works. They will also conduct experiments with plastic combs, wool, styrofoam, electroscopes, balloons, Van de Graff generators, and tinfoil.
- o Students will demonstrate the relationship among ohms, volts, amperes, kilowatts, and kilowatt hours by applying Ohm's or Watt's laws to prepare and implement a household energy conservation plan. They will demonstrate how to protect themselves from electrical shock by reporting to the class on the use and function of fuses, circuit breakers, insulators, conductors, the role of grounding, and the importance of U.L. labels on appliances.
- o Students will become aware of the different types of electrical devices that aid us in daily living by explaining the function of thermocouples, cells, batteries, generators, motors, and electric eyes by reading references on each subject and relating the findings to their classmates.
- o Students will understand how transmissions are made in radio and T.V. by describing how a program gets from the radio studio to the home.
- o Students will report on the field of digital electronics and how electronic devices have changed in the last five years and will become aware of the technological applications and career opportunities available in the electronics field by visiting a digital electronic firm.

17. Students understand the relationship of magnetic forces and electrical currents and investigate magnetic polarity, electromagnetic induction, and the common uses of magnetism.

Activities that exemplify this standard are:

- o Students become aware of the prevalence of electromagnetics by investigating the extent to which they are used in washing machines, cars, toys, etc.
- o Students will observe evidence for the magnetic field of the earth by using a compass. Students will determine the declination for their school by checking a U.S.G.S. topographical map of their area or by comparing the compass reading with a street that is known to be in a geographic north and south direction.
- o Students will observe the properties of electromagnets by removing the protective covers from bells and buzzers and then observing them when they are connected to a cell.

18. Students understand that geologic processes are thought to occur over millions of years and that the atmosphere, hydrosphere, lithosphere, and biosphere act as dynamic system.

Activities that exemplify this standard are:

- o The student will describe evidence for magnetic reversals and explain how sea floor spreading is inferred from the evidence.
- o The student will describe the atmosphere, its limits, its characteristics, and its composition.
- o Students will study historic attempts to measure air pressure and demonstrate an understanding of common air pressure, measuring devices, and scales while doing experiments on air pressure with vacuum pumps and barometers.
- o Students will understand the inter- and intra-relationships among the biosphere, lithosphere, and atmosphere by diagraming and explaining the significance of life cycles of various plants and animals, the hydrologic, rock, nitrogen, carbon dioxide, and oxygen cycles. Students will attempt to develop a list of things or events that are in two or more of the spheres.

19. Students understand that rocks are classified according to characteristics peculiar to the process by which they are formed and that rocks are made up of minerals in a variety of combinations.

Activities that exemplify this standard are:

- Students will investigate and compare the crystalline and/or amorphous structure of rock/mineral components by means of a hand lens (or low-power microscope) and will make appropriate drawings.
- Students will compare the composition of moon rock and Earth rocks and speculate on the conditions leading to the formation of each.
- Students will investigate the specific properties of minerals by studying sample minerals (e.g., color, hardness, luster, streak, and crystal structure).
- Students will identify samples of sedimentary, igneous, and metamorphic rocks found in or near California and explain how each rock type is produced.

20. Students identify and understand the forces that shape the land surfaces. The plate tectonics model will be used in explaining the physical features of the earth. These features should include the formation and destruction of continents, mountain ranges, volcanoes, ocean trenches, earthquake belts, and other landforms.

Activities that exemplify this standard are:

- The student will, by means of a stream table, investigate and describe the stages of river/valley/delta formation for San Joaquin and Sacramento deltas.
- The student by means of cardboard layers will construct a contour map of bays, deltas, valleys, beaches, and tidal pools, etc. and describe how a contour map is read.
- The students will obtain a list of earthquake locations in California and plot their locations on a map and in a discussion/report relate where earthquakes occur, how they are measured, and what precautions are to be taken during an earthquake.

21. Students will understand the role the oceans play in making life possible on Earth. This would include the knowledge and effects of the water cycl tides, waves, currents, salinity, life forms, and ecological controls.

Activities that exemplify this standard are:

- The student will investigate and describe the ocean's effects on day-by-day weather conditions of adjacent land areas.
- The students will hold a symposium on current international conflict in the use of oceans and ocean resources and analyze the reasons for these conflicts.
- Students will compare ocean water with fresh water by floating objects in each, determining the density of each, and comparing residues after evaporation of each water sample.
- The student will demonstrate an understanding of the significance of the ocean as it relates to factors such as economics, transportation food-gathering, medicine, and recreation by preparing a report on on of these factors and relating its importance to California.

22. Students understand that climate is the long-range condition of temperatu wind, and moisture in a given place over a long period of time and that weather is the temporary condition; in addition that climate and weather are strongly influenced by physical features, such as water masses (e.g., rivers, oceans) or mountain range elevation.

Activities that exemplify this standard are:

- The student will investigate and compare the seasonal changes in weather conditions on Earth and describe the causes of these differences in terms of angles of the sun's rays and lengths of daylight vs. periods of darkness.
- The student will report on how features on the earth's surface influence climate in their locale within California.
- Students will use a set of meteorological instruments to keep record of temperatures, air pressure and movements, humidity, precipitation and other weather conditions.
- Students will report on how meteorological processes lead to the dispersion of pollutants over long and short distances, as shown by the example of acid rain.

23. Students understand certain principles of astronomy. These will include a study of stars, galaxies, the solar system, and the interactions of the moon and the earth.

Activities that exemplify this standard are:

- The student will investigate and describe the effects of the sun and moon on Earth's tides by graphing the tides during a given period and relating the tide ranges to relative solar and lunar positions.
- The students will construct a model of the solar system on the playground, using scale models of the planets. The students will use models to describe the motions of the planets and their changes in position relative to the stars.
- Students, working in groups, will prepare a report on the topic "Ancient Populations Studied the Heavens." Cultures to be considered would include Chinese, Mayans, Native Americans, Greeks, Romans, and Druids.
- Students will compare and contrast the Copernican principle of heliocentric planetary motion with the work of Johannes Kepler.

24. Students understand that expeditions into space have provided useful information as to the origin of planets and are important to an understanding of life as we know it.

Activities that exemplify this standard are:

- Students will prepare a report on how modern space explorations have changed previous ideas of the solar system and added to what was known.
- The student will draw a plan or construct a model of a spacecraft designed to support human life over extended periods of time and will relate why the earth is considered a "space ship."
- After reading material by Carl Sagan or Thomas Wolfe, students will debate the topic, "It Was Worthwhile Putting a Man on the Moon."

Model Curriculum Standards

Grades Nine Through Twelve

First Edition

Visual and Performing Arts

Adopted by
CALIFORNIA STATE BOARD OF EDUCATION

Published by
CALIFORNIA STATE DEPARTMENT OF EDUCATION
Bill Honig, Superintendent of Public Instruction
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PREFACE

In 1983, the California Legislature enacted Senate Bill 813 (Chapter 498, Statutes of 1983), a far-reaching reform measure designed to improve financing, curriculum, textbooks, testing, and teacher and administrator training in the state's elementary and secondary schools. One of the central themes of SB 813 is the reestablishment of high expectations for the content that would be taught in secondary schools and for the level of effort and performance by students.

Consistent with this theme, SB 813 reinstituted statewide high school graduation requirements. Before receiving a diploma, every student must complete at least the following courses:

- o English--three years
- o History-Social Science--three years
- o Mathematics--two years
- o Science--two years
- o Foreign Language; Visual and Performing Arts--one year of either
- o Physical Education--two years

To assist school districts in upgrading course content, SB 813 also requires the Superintendent of Public Instruction to develop and the State Board of Education to adopt model curriculum standards for the newly mandated high school course of study. School districts are required to compare their local curriculum to the model standards at least once every three years. The full text of the Education Code Section 51226, which requires the model curriculum standards, is as follows:

> 51226. (a) The Superintendent of Public Instruction shall coordinate the development, on a cyclical basis, of model curriculum standards for the course of study required by Section 51225.3. The superintendent shall set forth these standards in terms of a wide range of specific competencies, including higher level skills, in each academic subject area. The superintendent shall review currently available textbooks in conjunction with the curriculum standards. The superintendent shall seek the advice of classroom teachers, school administrators, parents, postsecondary educators, and representatives of business and industry in developing these curriculum standards. The superintendent shall recommend policies to the State Board of Education for consideration and adoption by the board. The State Board of Education shall adopt these policies no later than January 1, 1985. However, neither the superintendent nor the board shall adopt rules or regulations for course content or methods of instruction.
>
> (b) Not less than every three years, the governing board of each school district shall compare local curriculum course content, and course sequence with the standards adopted pursuant to subdivision (a).

Development of the model curriculum standards began in early 1984 when the Superintendent of Public Instruction appointed broadly representative advisory committees in six of the mandated subject areas. (Physical education standards will be developed in early 1985.) The committees worked for more than six months, frequently consulting nationally recognized experts, to produce draft standards. The draft standards were then reviewed and critiqued by teachers and administrators from more than 80 school districts throughout the state. The results of this extensive field review were used to make final refinements to the standards.

In recognition that this is California's first effort to prepare model curriculum standards, the standards are being published in a first edition to allow for revisions, where appropriate, as they are further reviewed and used by school district personnel over the next nine months. A second edition is expected to be published early in 1986.

As specified in SB 813, the standards are a model, not a mandate. They reflect the strongest possible professional consensus about the content that every student should be exposed to before graduating from high school. Some school districts will find that their programs are already consistent with the standards; others will set them as a goal to strive towards. Whatever the results of each district's curriculum review, the Superintendent of Public Instruction and the State Board of Education hope that the standards will be of help as teachers, administrators, members of school district governing boards, and others concerned with the schools work to build a stronger, richer curriculum for all our students.

ACKNOWLEDGMENTS

The active involvement of the Visual and Performing Arts Advisory Committee was an invaluable help in arriving at the conclusions contained in the point of view statement for the visual and performing arts and the model curriculum standards. The committee members' professional knowledge and dedicated work led to the identification and formulation of high points of excellence in visual and performing arts education for the State of California. A wide range of artistic skills and models of aesthetic perception was agreed on by representatives of the four major disciplines in the arts: drama, music, dance, and visual arts. The Department of Education also wishes to acknowledge the professional organizations, individual districts, schools, and teachers that provided constructive feedback to the writing committee. The members of the advisory committee are listed as follows:

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State Department of Education staff support was provided by members of the Language Arts/Fine Arts Unit: Donavan Merck, Consultant; Miguel Muto, Consultant; and Frank Summers, Consultant.

INTRODUCTION

The reform effort outlined in SB 813 mandates:

1. The creation of such points of excellence in planning the educational goals of school districts and schools

2. The adoption of a school board policy aimed at providing students with the prerequisites for graduation

Basic Philosophical Assumptions

The point of view formulated by the Superintendent of Public Instruction and the Advisory Committee on the Visual and Performing Arts contains four basic cornerstones on which the curriculum should be built. These cornerstones are the following:

I. The arts teach students a common core of knowledge.
II. The arts connect students to their cultural heritage.
III. The arts develop and refine students' sensibilities.
IV. The arts enable students to express their own creativity and experience moments of exaltation, satisfaction, and accomplishment.

Personal development, the transmission of artistic heritage, and awareness of societal values are the basic goals of visual and performing arts education. The aim of personal development is enhanced when teachers help students develop the capacities for creative, sensitive, and intelligent participation in the arts. The aim of transmitting cultural heritage is enhanced when students are provided with a visual record of people's efforts to make sense out of their existence. The social order is enhanced when teachers engage young people in the study of arts in society.

Scope of the Standards

Applied to teaching and learning, a standard is a criterion of excellence. If progression in academic knowledge is regarded as a continuum, a standard is a point of excellence in that continuum that can be identified as a norm.

The model curriculum standards reflect the four basic cornerstones previously discussed and will serve as guidelines to school districts for planning, implementing, and evaluating visual and performing arts programs at the high school level. Although the standards have been developed for high school programs, these standards should also be addressed at the elementary and junior high school levels so that these students will acquire the background, experiences, and skills required to participate successfully in the high school program. Programs that meet the standards should be available to all students, not just to those with special interests in the arts.

SB 813 mandates graduation requirements that include a minimum of a one-year course in the visual and performing arts or a foreign language. Students may meet the minimum requirement by completing a survey course or an art history course that meets the model curriculum standards. However, because an arts course should involve the students in doing the arts, emphasizing higher order thinking skills, it is recommended that students complete the requirement by taking performance or portfolio courses rather than survey courses that do not include actual participation in visual and performing arts activities.

A sound foundation of arts experiences and knowledge is a necessary prerequisite for students in a successful high school program. Such a foundation, built on the sequential coursework at the elementary and junior high school levels, should allow students to experience more than one arts discipline and should emphasize the development of basic arts skills and operations as well as establish a cultural context for the arts. Only students familiar with the basic operations of the arts can truly appreciate exposure to them at the high school level and truly understand art history and criticism.

Congruence and compatibility of objectives exist between the standards and the content of other basic reference documents, such as the State Board of Education's Raising Expectations: Model Graduation Requirements (1983) and the State Department of Education's Visual and Performing Arts Framework (1982). Coordination with these sources will facilitate the implementation of these standards at the local level.

Community members should be involved in the process of developing local standards in a way that will capitalize on the use of community resources in the total arts program. Also, teachers, administrators, curriculum coordinators, local artists, and community members should participate in ongoing staff development in arts instruction and evaluation.

ORGANIZATION OF THE STANDARDS

The standards are not prescriptive but descriptive only. The statements contained within the boxes are the models the districts should use in comparing their visual and performing arts curriculum to that of a high-quality program. The activities that follow include one activity in each artistic discipline for each standard. These activities vary in difficulty but are generally aimed at a high level of quality. It is not the intention of the State Board of Education that these activities be required in any single course.

The standards themselves are not (1) a state-mandated curriculum; (2) minimum competencies; or (3) course descriptions or outlines, but rather models that act as a catalyst for districts as they review their curriculum. The activities were developed to provoke debate and review. Local educators (teachers and specialists) are charged with the responsibility to develop curriculum. The standards are intended to be an aid in that process.

THE ARTS TEACH STUDENTS A COMMON CORE OF KNOWLEDGE

The arts, like other areas of the curriculum, possess the content of discrete disciplines. They also reflect and transmit a core of knowledge that transcends subject areas.

1. Students are learning that social, political, economic, and technological events have influenced the development of artistic styles.

Activities that exemplify this standard are the following:

Students will:

- Describe, observe, or perform several historical dance forms in relation to the social, political, economic, or technological forces of the time. Examples might be the galliard, pavane, and branle of the 16th century.
- Watch a tape or film of Ibsen's Ghosts or Chekhov's The Cherry Orchard and compare the style of 19th century realism to Pirandello's Six Characters in Search of an Author to study effects of the decay of the social order after World War I and propose various theses to explain the shift in style.
- Discover the social influences on musical theatre through listening, study, discussion, and performance of materials from theatrical works such as Show Boat, Oklahoma, South Pacific, Brigadoon, My Fair Lady, and West Side Story.
- Discuss and write about the works of Mexican muralists such as Diego Rivera and Jose Orozco in terms of the political content.

2. Students are learning that the arts provide a means of nonverbal communication.

Activities that exemplify this standard are the following:

Students will:

- Utilize body movement through space and time with energy, motion, and shape to communicate an emotion such as anger, sorrow, or joy.

- Advanced

  Working in groups, develop a nonverbal mimetic scene, using the action contained in Albee's The Zoo Story and then perform the same play as a radio play to study how nonverbal communication is used in drama to transmit conflict and mood.

- General

  Retell events that they found to cause apprehension or anxiety in other students, using only nonverbal actions such as facial gesture, body movement, and mime.

- Develop an understanding that music may project, in powerful statement, the intended moods, emotions, images, and story through directed listening experiences with appropriate musical literature: Tchaikovsky's 1812 Overture; Saint-Saens's Danse macabre; Moussorgsky's Pictures at an Exhibition; Debussy's La Mer; and Gershwin's An American in Paris.

- Create a painting emphasizing line, color, or shape to express an emotion such as anger, sorrow, or joy.

3. Students are developing insights into how the arts have been used to express universal concepts.

Activities that exemplify this standard are the following:

Students will:

- Learn to abstract movement from universal themes such as war, peace, or love and transform the ideas into choreographed dance.

- Perform (or develop a staged or choral reading) of The Lottery and then examine the themes of justice versus fairness as presented by the play.

- Discover the underlying themes and messages expressed through folk songs of many national origins and subcultures; e.g., spirituals, Appalachian folk music, or ballads of early California.

- Create an art work in a medium of their choice, using a theme such as "Save the Whales" to express the concept of conservation of natural resources.

4. Students are experiencing important styles in dance, drama, music, and visual arts in the Western and non-Western traditions.

Activities that exemplify this standard are the following:

Students will:

- Research and compare individual aesthetic concepts, dance techniques, and styles such as those developed by American modern dance artists in the 20th century: Isadora Duncan, Martha Graham, Doris Humphrey, Charles Weidman, Jose Limon, Merce Cunningham, Twyla Tharp, Alvin Ailey, Jose Greco, and George Balanchine.
- Be shown examples of the commedia dell' arte in its classic form and then have commedia characters satirize a contemporary problem.
- Study and/or perform selected works of Bach, Handel, Haydn, Mozart, Beethoven, Brahms, and Liszt to understand the transition from baroque to classicism to romanticism.
- Compare and contrast an African and a Greek sculpture for style, media, impact, and surface qualities.

5. Students are learning that the arts enhance and reinforce concepts and ideas in other subject areas.

Activities that exemplify this standard are the following:

Students will:

- Experience through movement principles of physics such as gravity, leverage, and centrifugal and centripetal force.
- Watch a film or tape version of Arthur Miller's The Crucible or perform the work and compare the Salem witch trials with McCarthyism in the 1950s to gain added insight into a "witch hunt" mentality and how it affects society.
- Listen to and study selected works of Smetana, Sibelius, Grieg, Copland, and other composers to develop an understanding of nationalistic spirit.
- Study the perspective used in a painting such as Ta Matete by Gauguin and compare it with the perspective in a painting such as St. Romain Quartier by Utrillo. Students then research the process of "binocular vision" and discuss how one sees depth.

THE ARTS CONNECT STUDENTS TO THEIR CULTURAL HERITAGE

The arts transmit an understanding of ourselves, our common heritage, and our diverse cultural traditions.

1. Students are gaining deeper insights into the role the arts have in the development of cultures throughout the world.

Activities that exemplify this standard are the following:

Students will:

- Study and compare the place of dance in the traditional cultures of the Japanese, Chinese, West Africans, American Indians, and Pacific Asians.
- Perform or present a staged reading of Antigone and Lysistrata to understand and compare the diversity of emotion among ancient Greeks toward war.
- Develop a time line of significant events related to musical works of the culture and of the historical period.
- Study the block print process and how it has influenced the culture of Japan and other countries politically, socially, or artistically.

2. Students are learning that the arts contribute to the ceremonies and celebrations of the world's cultures.

Activities that exemplify this standard are the following:

Students will:

- Study and participate in ceremonies or celebrations involving dance in local ethnic communities such as Greek, Hmong, or Hispanic.
- Attend diverse cultural events or festivals, such as Chinese New Year, miracle plays, Day of the Dead, etc.; study the role of drama or puppetry in such events; and develop their own puppets for these activities or for a mythical event.
- Listen to, study, and perform works such as Schubert's Marche militaire; Verdi's "Triumphal March" from Aida; Tchaikovsky's Symphony no. 6, Third Movement; and Sousa's Stars and Stripes Forever as examples of a variety of march styles.
- Study masks and shadow puppets of Southeast Asia and create a mask or puppet that could be used in a contemporary ritual.

3. Students are learning that artists reflect the ideals and values of their own cultures.

Activities that exemplify this standard are the following:

Students will:

- Research by viewing films or live performances, develop skills, and perform dances to understand how the character of various cultures is expressed through folkloric ballet companies, such as the Moiseyev Dance Company of the Soviet Union; Ballet Folklorico of Mexico; and the Bayanihan Dance Company of the Philippines.
- View or read the play One Flew over the Cuckoo's Nest and discuss how the plot, characters, and themes of the play reflect the values of the 1960s regarding authority, confinement, and conformity.
- Compare works of American music and composers with those of other cultures of the world, including vocal and instrumental (e.g., symphonic) materials and folk music.
- Study Gothic cathedrals and the new ideas that were introduced by the architects of the period; e.g., flying buttresses, decorative exteriors, and pointed arches. Discuss the culture of the people who built the churches.

4. Students are learning to appreciate that American culture is influenced by the artistic contributions of various ethnic groups.

Activities that exemplify this standard are the following:

Students will:

- Study the influences of France and Russia on ballet in the United States; the influence of black cultures on jazz or modern dancing; or the influence of contra dancing from the British Isles on our American square dancing.
- Perform (or stage a reading) of Raisin in the Sun or The Shrunken Head of Pancho Villa to appreciate the language and techniques of Black Theatre or Teatro.
- Develop an essential awareness of ethnic contributions through a wide range of listening experiences with jazz styles, examining the historical origins.
- Study their own ethnic background, produce an art work that reflects their cultural heritage, and share their creation with others.

5. Students are learning that their own ideals and values can be communicated through the arts.

Activities that exemplify this standard are the following:

Students will:

- Discuss ideals and values such as democracy, truth, or peace and create a dance to express a selected personal ideal.
- Improvise or write a script for a scene or play in which seven characters of diverse backgrounds and professions are marooned on an island with enough food to support only four people. Students will clarify their values by making choices as to which characters, if any, are turned back to the sea.
- Examine their own values and ideals through listening to, and discussion of, contemporary popular music and share examples of music of their choice that will reflect personal values and ideals.
- Display a series of photographs that they have created in which selected ideals and values are expressed.

THE ARTS DEVELOP AND REFINE STUDENTS' SENSIBILITIES

The arts have as a primary focus the education of students' sensibilities, leading to improvements in the aesthetic quality of life.

1. Students are expanding and refining skills, knowledge, and understandings that enable them to make aesthetic judgments.

Activities that exemplify this standard are the following:

Students will:

- Observe two dance performances and, using oral or written language that incorporates standard dance terminology, make aesthetic judgments in comparing the presentations.
- View a Shakespearean tragedy such as Hamlet, Macbeth, or Julius Caesar to examine how the concept of the tragic flaw is used in each play to lead to a more profound understanding of human nature.

- Attend live performances (e.g., opera, symphony, chamber music, and jazz) following appropriate classroom preparation and develop selected lists of music for a personal record or cassette collection.

- Use the elements and principles of art to compare orally or in writing two works of art and make aesthetic judgments.

2. Students are developing and refining kinesthetic, aural, tactile, and visual sensibilities through artistic processes.

Activities that exemplify this standard are the following:

Students will:

- Explore variations in dance patterns to produce a range of contrasting movement qualities; e.g., burst (explode/stop), sustained (smooth, continuous, even), undulating (impulse, follow-through), and vibratory (resistant, shaking).

- Practice mirror movements and develop ensemble stage movement from exercises to increase stage presence and coordination.

- Develop criteria based on refinement of skills and understandings for making personal choices of music according to types, styles, composers, and performers.

- Create an original ceramic form that incorporates a variety of textures and patterns.

3. Sensory responses of students are being intensified to such an extent that they can more fully appreciate and enjoy works of art.

Activities that exemplify this standard are the following:

Students will:

- Attend, after adequate and appropriate preparation, a live performance of dance and express through oral or written language, using standard dance terminology, their personal responses to the experience.

- Rehearse scenes from A Glass Menagerie to develop keener skills in performance of and listening to dialogue that uses unique pacing, inflection, and dialect.

- Express personal preferences, showing an acceptable level of understanding of musical form and improvisational techniques, following a series of directed listening experiences with jazz improvisation.

- Compare and contrast the landscapes of Turner, Van Gogh, and Wyeth to recognize these artists' unique interpretations of similar subject matter.

4. Students are learning that the arts communicate an expressive content and elicit a related emotional response.

Activities that exemplify this standard are the following:

Students will:

- Articulate their emotional response to each style, after viewing a film or live performance of dancers in contrasting works such as Giselle (1842) and Rodeo (1942).
- View films such as Terms of Endearment and analyze their emotional response, with reference to cues in the script, acting, or directing that evoked that response.
- Identify contemporary film scores and discuss the effectiveness of the music in contributing to the expressive or emotional intent of the film.
- Choose two or more paintings from any periods that communicate the same emotional response; then produce their own art work expressing the same emotion. Examples might be: serenity--Monet's Houses of Parliament at Sunset and Inness' The Lackawanna Valley; happiness--Chagall's The Flying Horse and Renoir's Le Moulin de la Galette.

5. Students are using higher order thinking skills as they observe unique interrelationships in art and nature.

Activities that exemplify this standard are the following:

Students will:

- Select a piece of music such as "The Aquarium" from Carnival of Animals by Saint-Saens and a painting such as Underwater Garden by Klee and create a dance to express movement in water or in an aquatic environment.
- View the film Ordinary People and a soap opera and study the technical components of the script, acting, and direction to compare, analyze, and evaluate the effectiveness of the artistic components in each work.

- Discover the perfection of musical form through a piece of absolute music such as a Mozart symphony; contrast a composer's intent in creating a work of program music such as the Symphonie fantastique by Berlioz.

- Describe and interpret symbolism as expressed in Southwestern American Indian art.

- Attend a performance of dance, drama, or music or an exhibit of visual art and independently judge the quality of the production, after studying appropriate criteria for evaluation.

THE ARTS ENABLE STUDENTS TO EXPRESS THEIR OWN CREATIVITY AND EXPERIENCE MOMENTS OF EXALTATION, SATISFACTION, AND ACCOMPLISHMENT

The arts provide a means for students to express their own creativity and opportunities for nurturing aesthetic experiences. As students engage in the study of the arts, they master skills and techniques that make possible the self-expression and creativity that can bring moments of exaltation to their lives, as well as satisfaction and accomplishment.

1. Students are engaging in creative activities that help them achieve personal insight, emotional satisfaction, and spiritual nourishment.

Activities that exemplify this standard are the following:

Students will:

- Develop the ability to become immersed in movement improvisation, with an inner focus and concentration.

- Develop soliloquies from among works of such playwrights as Shakespeare, Ibsen, Albee, Brecht, or Pinter that they feel deeply about and perform these soliloquies after considerable rehearsal.

- Develop and perform ambitious and challenging musical literature in large and small ensembles and in solo presentations.

- Choose a theme (or personality) meaningful to them and create a series of several art works reflecting that theme.

2. Students are learning to value their own efforts to think imaginatively through experiences in the arts.

Activities that exemplify this standard are the following:

Students will:

- Enjoy an increasing ability to imagine a range of environments, feelings, and other images to explore in movement improvisation.
- Develop a radio play from a Greek or American Indian myth to understand how the use of the imagination is necessary to write the script, perform the play, and appreciate the performance as an audience.
- Select music that will be an appropriate expression of moods and emotions for a theme (story, poem, or idea) of their choice.
- Participate in a group project, such as creating a ceramic or painted mural based on a common theme, so that each person has an opportunity to express personal imagination within the unified whole.

3. Students are engaging in creative activities which enable them to transform personal and group experiences into original art works.

Activities that exemplify this standard are the following:

Students will:

- Choose a past experience representing conflict or loss and, using appropriate, expressive body movements, create a dance.
- Develop improvisations based on an experience of intense conflict in values that they had with another person. Students will then write a script, cast the characters, and direct a short scene from the improvisation.
- Compose music (i.e., melodies, rhythms, and/or appropriate sounds) based on an original poem or short story that may be a reflection of a personal experience.
- Create paintings of themselves, expressing personal experiences or states of mind.

4. Students are engaging in activities directed toward the refinement and mastery of artistic skills and performance/production techniques.

Activities that exemplify this statement are the following:

Students will:

- Develop skills in the craft of choreography through practice in the ability to organize and develop structured movement through space designs, time patterns, and dynamic flow.

- Produce plays from at least two different time periods and present them to an audience of other students and to the community.

- Study and practice reading music.

- Choose one specific medium such as printmaking or textile design and produce a series of art works, critiquing and refining their use of the chosen medium.

5. Students are engaging in activities which promote their understanding of the arts for lifelong involvement, including the potential for careers.

Activities that exemplify this statement are the following:

Students will:

- Interview a professional dancer to determine the characteristics necessary for a successful career in dance.

- Visit a local theatre company or see a presentation by a professional touring company and interview actors, directors, or playwrights about how they became professionals.

- Participate in presentations and performances through choral groups, instrumental ensembles, and musical theatre productions.

- Become aware of a variety of careers in American life and industry by researching occupations that make use of arts experiences and listing vocational possibilities for those with training in the arts.

Publications Available from the Department of Education

This publication is one of approximately 500 that are available from the California State Department of Education. Some of the more recent publications or those most widely used are the following:

Administration of the School District Budget (1983)	$3.00
American Indian Education Handbook (1982)	3.50
Apprenticeship and the Blue Collar System: Putting Women on the Right Track (1982)	10.00
Arts for the Gifted and Talented, Grades 1–6 (1981)	2.75
Arts for the Handicapped Trainer's Manual (1982)	6.50
Bilingual-Crosscultural Teacher Aides: A Resource Guide (1984)	3.50
California Private School Directory	9.00
California Public School Directory	12.50
Career Vocational Assessment of Secondary Students with Exceptional Needs (1983)	4.00
Child Development Program Guidelines (1983)	3.75
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